

FALL 2009

from the California Academy of Sciences

LIVE



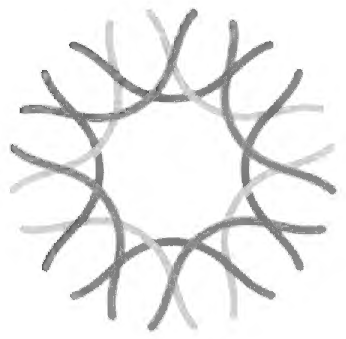
Look Inside:

Mapping climate change

Evidence of evolution

Journey to the Stars

Fall calendar of events



CALIFORNIA
ACADEMY OF
SCIENCES

California Academy of Sciences

LIVE, a Member Publication

Fall 2009, Issue No. 14

Editor

Stephanie Stone

Associate Editor

Andrew Ng

Editorial Assistant

Helen Taylor

Creative Director

Rhonda Rubinstein

Senior Graphic Designer

Jenny Ji

Graphic Designer

Andrew McCormick

Graphic Design Intern

Priscilla Peña

Contributors

Kirsten Bickford

Jean Farrington

Bing Quock

Dan Weinstein

LIVE (ISSN 1935-8121) from the
California Academy of Sciences is
published quarterly by the:
California Academy of Sciences
55 Music Concourse Drive
San Francisco, CA 94118
Telephone: 415.379.8000

Periodicals Postage Paid at San Francisco, CA.

POSTMASTER: Send address changes to
LIVE, California Academy of Sciences
Member Publication
Golden Gate Park
55 Music Concourse Drive
San Francisco, CA 94118

The opinions expressed by the authors
do not necessarily reflect the policy of the
California Academy of Sciences.

Printed on recycled paper with 30% post-
consumer waste. Printed with VOCFree inks.
Please recycle. ♻️



It's hard to believe, but the new Academy building has now been open for almost a year. By any measure, it has been busy around here since opening day. Academy scientists have described dozens of new species; rainforest birds, chameleons, jellyfish, and a number of other aquarium animals have begun breeding in their displays; we launched a new Teacher Institute on Science and Sustainability for Bay Area elementary school teachers; and more than two million visitors have passed through our doors.

To thank you for your support during our inaugural year back in Golden Gate Park, we've planned a special weekend of festivities on September 26 and 27. We hope you'll join us for the chance to meet big cats and birds of prey, experience some of the Bay Area's finest dance and drumming ensembles, and check out our new planetarium show, *Journey to the Stars*.

This issue of LIVE will be the last member newsletter that you receive in its current form. In the spirit of sustainability, we will share our news and stories with you in the future on a special members-only section of our website. This new format will allow us to incorporate additional features, such as slide shows and video interviews. Keep an eye out for a postcard in December with more details and login information. In the meantime, if you don't yet receive our monthly electronic newsletter, you can subscribe at www.calacademy.org.

Greg Farrington
Executive Director

Live contents

4

Creature Closeup

Panther Chameleon

This quick-change artist wears its emotions on its skin, changing colors in response to mood, temperature, and light.

5

Specimen Spotlight

Mystery Sengi

Academy scientists are on the trail of a potentially new species—despite appearances, its closest relatives include elephants and sea cows.

6

In the News

Journey to the Stars

The Academy's new planetarium show will launch visitors on a journey to the stars—including our own Sun—starting September 26.



7

On Location

Around the World in 2010

Check out the exciting line-up of Academy travel opportunities in 2010, from the Arctic tundra to the southern tip of Africa.

12

Programs & Lectures

Celebrate the Academy's first anniversary, face your fears during Creepy Crawly week, and much more.

Features

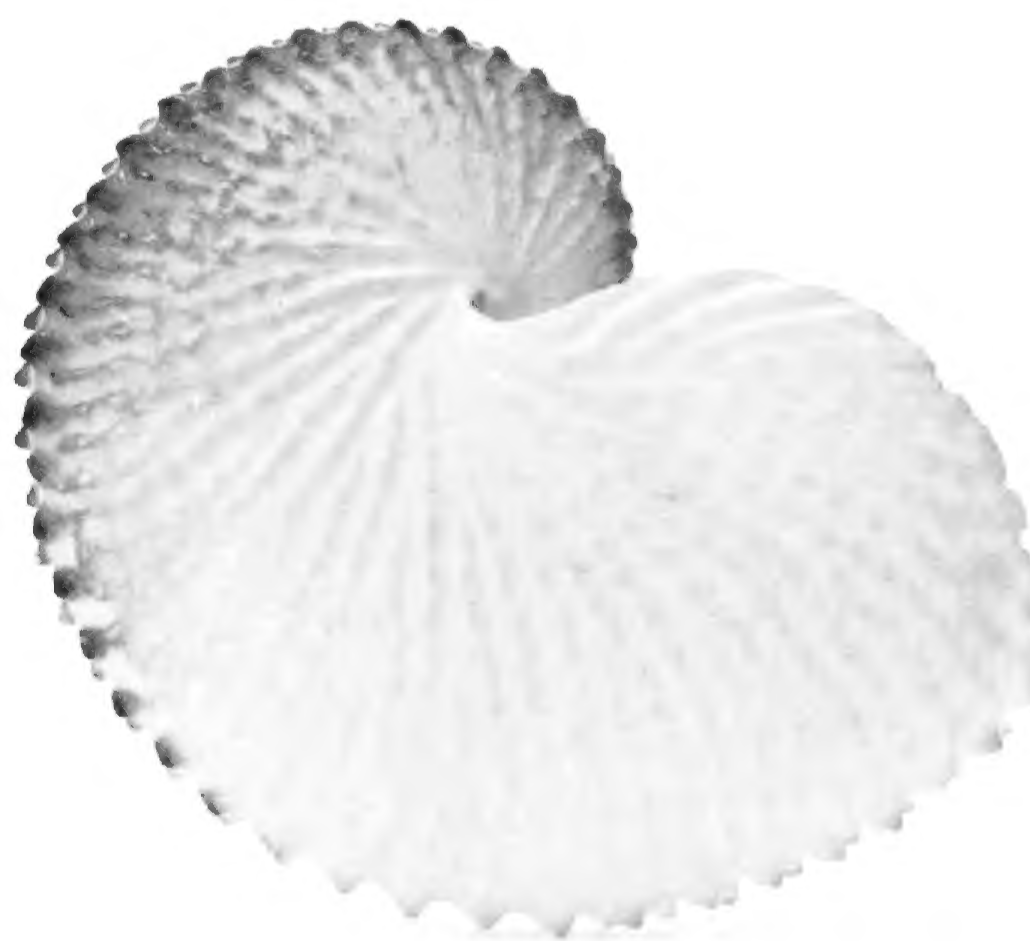


8

From the Lab

Mapping Our Future

Academy scientist Healy Hamilton is working to predict the impacts of climate change on some of the most iconic species in the American West.



16

From the Collections

Evidence of Evolution

A new book uses specimens from the Academy's research collections to illustrate one of the most central concepts in modern science.

20

Skyguide

This comprehensive guide to the season's celestial objects will turn you into a stargazing guru.

22

Q&A

Meet Tad Taube and Susan Koret from the Koret and Taube Foundations, and learn why education is near and dear to their hearts.

24

On the Scene

View snapshots of the Academy's submersible sweepstakes winner, Careers in Science interns, and more.

25

Credits

On the Cover



This panther chameleon (*Furcifer pardalis*) lives in the Madagascar level of the

Academy's *Rainforests of the World* exhibit. Like almost half of the world's chameleon species, this colorful lizard is endemic to Madagascar, meaning that it is not naturally found anywhere else on Earth. Learn more on page 4. Cover photo by Kevin Twomey.

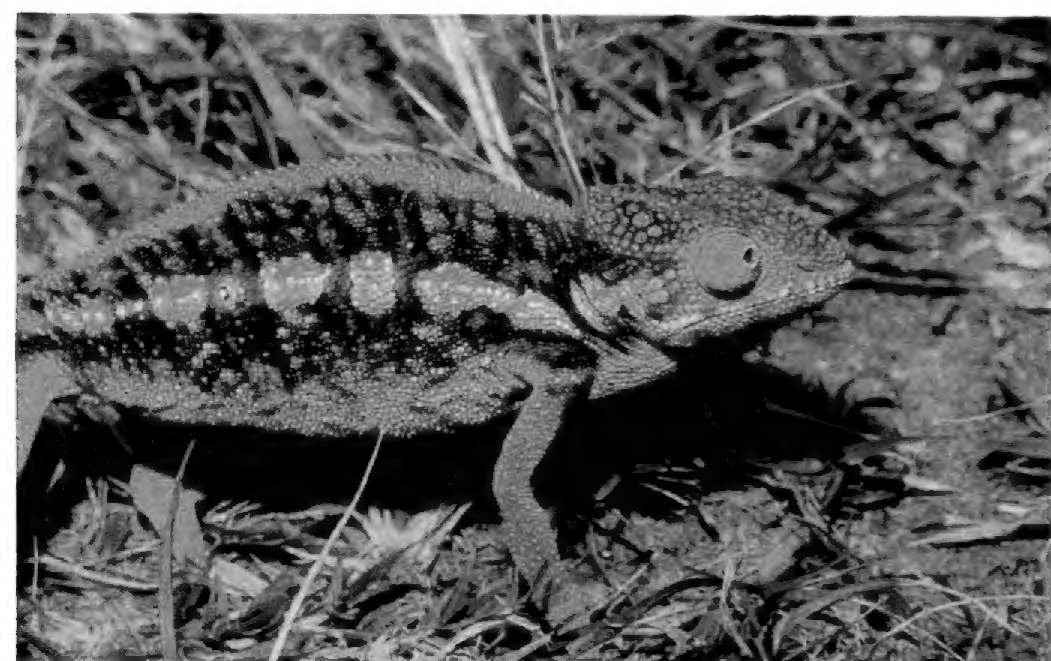
On the Back

The Death's head moth is just one of the scary specimens that will be on display in October in honor of Halloween.



Where in the World

Native to the eastern and northwestern coasts of Madagascar, the panther chameleon favors lowlands and has adapted to a degraded habitat. Approximately half of the world's chameleon species are endemic to Madagascar, living there and nowhere else. Rich in biodiversity, this island off the coast of Africa is among the world's highest conservation priorities.



Gerald and Buff Corsi (c) California Academy of Sciences

Where in the Academy

The Academy's panther chameleon is located in the Madagascar level of the *Rainforests of the World* exhibit, just across from a variety of colorful geckos. Gripping its leafy branch with the aid of V-shaped feet and a prehensile tail, it is a captivating creature to behold.

Layers of Color

Chameleons get their eye-catching coloration from melanin and chromatophore cells, lying just under a transparent outer layer of skin. Cells near the surface contain red or yellow pigment, and the lower layers contain blue or white. When the pigment shifts within the cells, different colors appear more (or less) intense.

Catching Dinner

Panther chameleons in the wild eat insects, small birds, and other reptiles, and can watch for prey in all directions with independently moving eyes. This species can capture its meal in a fraction of a second with a sticky tongue that is longer than its entire body.

Panther Chameleon

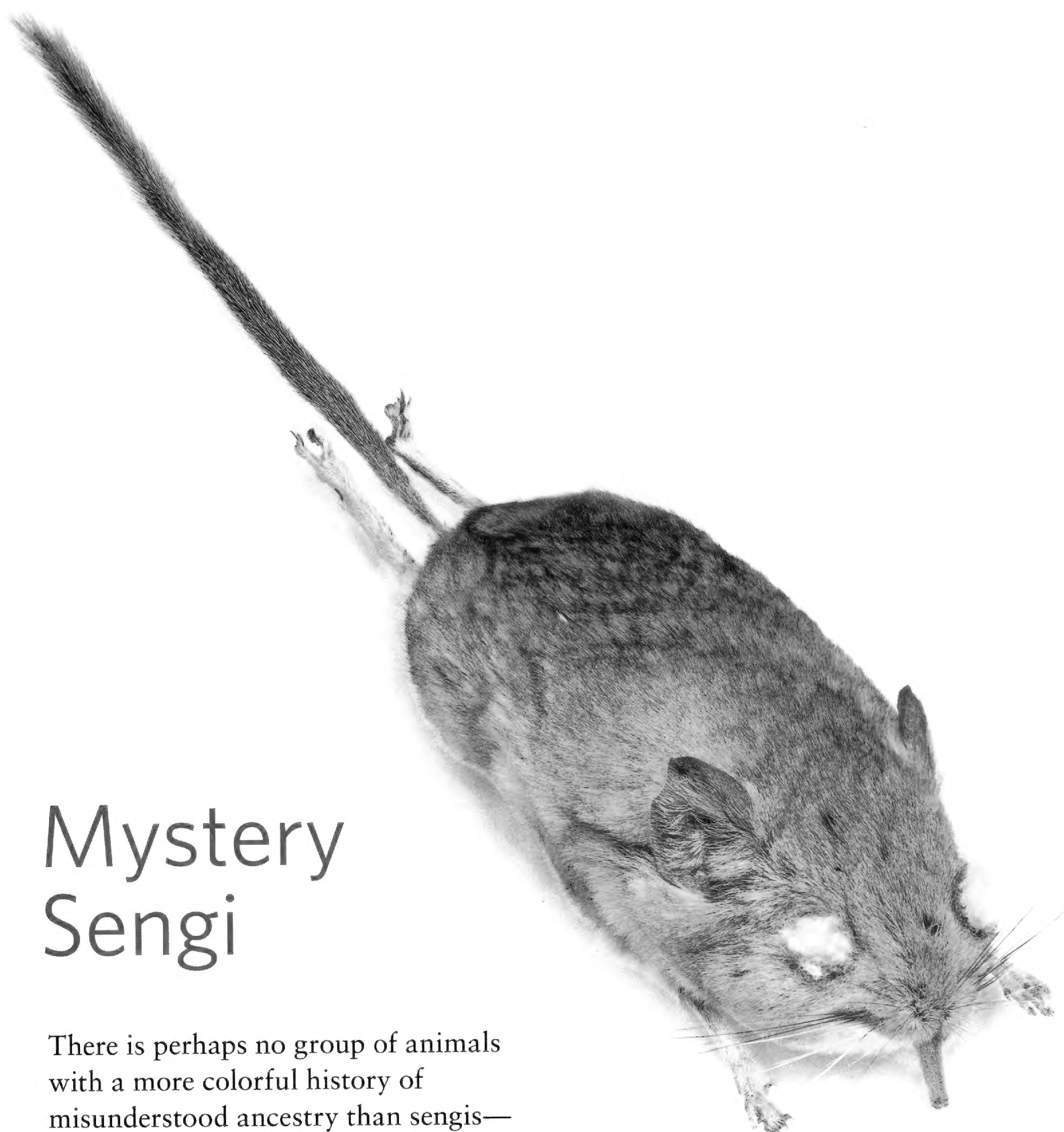
With its brilliant streaks of blue, green, red, and orange, the panther chameleon (*Furcifer pardalis*) is one of the most colorful lizards in the world. Like other chameleons, this quick-change artist can dramatically alter its appearance by changing the color palette and patterns of its skin. These changes are prompted not by an attempt to blend into its surroundings, as is commonly thought, but by shifts in temperature, mood, and light. On a cold day, for instance, a chameleon's skin may become a darker hue, allowing it to absorb more heat from the sun.

As reptiles, panther chameleons are ectothermic, meaning that they must rely on external heat sources to regulate their body temperature. Basking in the sun helps keep them warm, but evidence suggests that temperature is not the only factor at play; panther chameleons may also be adjusting their sunbathing schedules according to their levels of vitamin D, a nutrient important to reproduction.

When it comes to courtship, male panther chameleons display bold, bright stripes, and bob their heads up and down to express interest in females. While female panther chameleons are about half the size of their colorful male counterparts and have less prominent coloring, they too can accomplish a lot with a shift in skin tone. A female will turn a pale pink or orange if she is receptive to the male's advances. However, if her usual brown or green skin becomes darker and more distinct, it's a signal to stay away.

Because of their striking appearance, people have long prized chameleons as pets. Madagascar's chameleons are protected under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), which aims to closely control the exportation of species that are or may become threatened with extinction.





Mystery Sengi

There is perhaps no group of animals with a more colorful history of misunderstood ancestry than sengis—small mammals that sport the spindly legs of an antelope, the flexible snout of an anteater, and the tail of a rat. Early taxonomists hypothesized that sengis were most closely related to shrews, since both groups of animals slurp up insects in a similar fashion. Later, scientists mistakenly grouped these unique animals with hoofed mammals, rabbits, and even primates. However, recent DNA testing has revealed that sengis are actually part of an ancient group of African animals whose closest relatives include elephants, sea cows, and the armadillo.

While their place on the mammalian family tree is now widely accepted, Academy scientists Galen Rathbun and Jack Dumbacher have uncovered a new mystery in sengi classification. There are currently 17 described species of sengis, the smallest of which, the round-eared sengi (*Macroscelides proboscideus*), is native to South Africa and Namibia. Its pelt color varies from dark brown

to light buff across its range, but—until recently—only one color morph was known from each region, so scientists thought they were seeing local variation within a single species. Then a Namibian wildlife biologist spotted a dark animal in an area that had previously been known to support only light-colored individuals. He sent the specimen to Rathbun and Dumbacher for analysis to determine if it might represent a new species. “Initial DNA sampling suggests that the dark specimen is quite genetically distinct,” says Dumbacher, “but with only one specimen, it’s hard to be sure.” To confirm their results, the scientists are planning to return to Namibia, where they hope to observe this elusive mammal in the wild and collect additional DNA samples.



Where in the World

The round-eared sengi (*Macroscelides proboscideus*) is found from northwestern Namibia to the southeastern Cape of South Africa. The newly-collected dark specimen that may represent a new species was discovered in the desert landscape of Damaraland in northwestern Namibia.

Academy Collection

The Academy has 11 round-eared sengis from northwestern Namibia in its mammalogy collection—ten with the typical buff-colored fur, as well as the darker specimen pictured here. The dark individual was collected from a gravel-strewn desert floor, about six miles from the collection site of the closest light-colored specimen.

Also Known As...

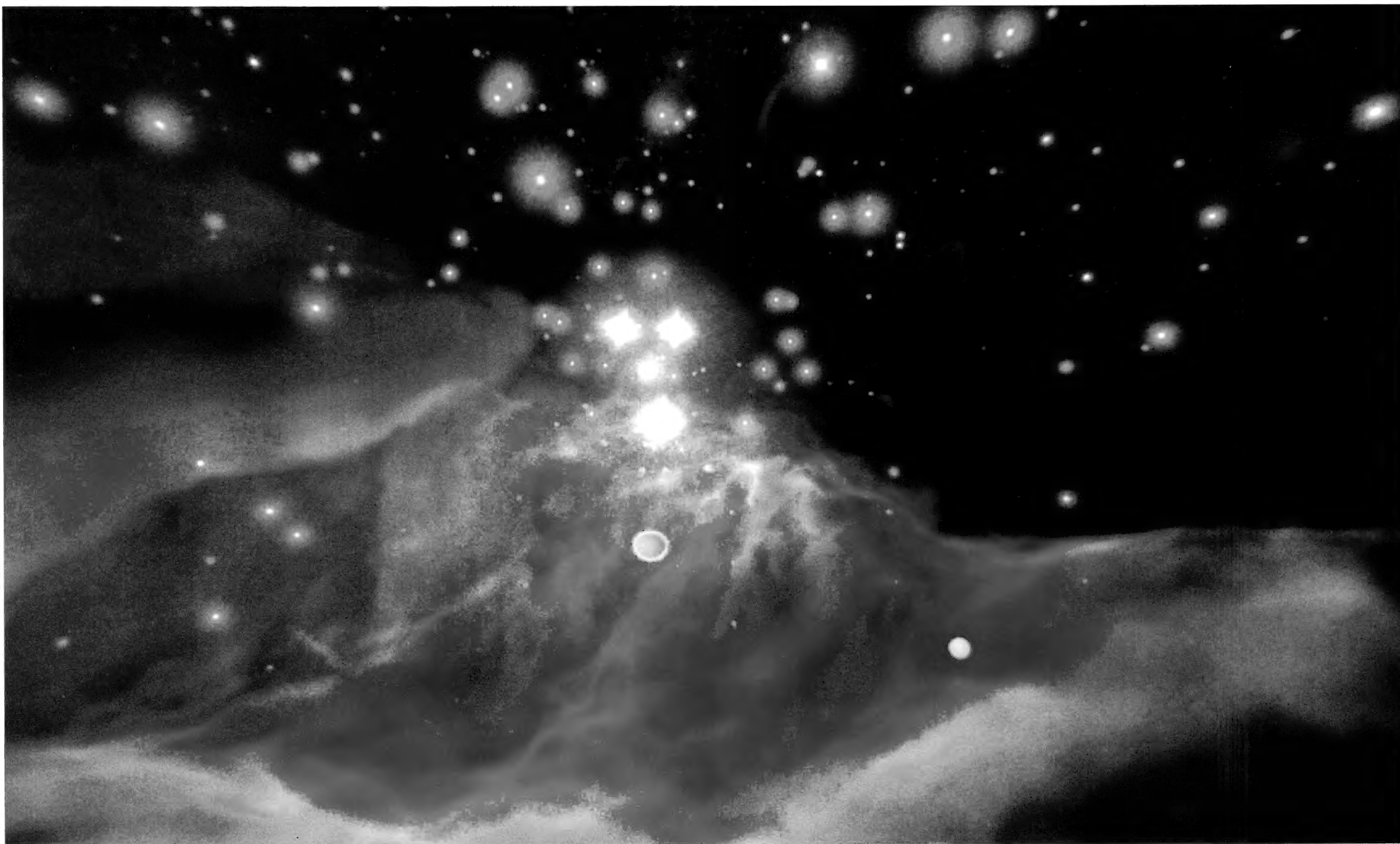
Early scientists named these animals “elephant-shrews,” not because they thought sengis were related to elephants, but because of their long, flexible trunks. Ironically, scientists now know that sengis are much more closely related to elephants than they are to shrews. In order to avoid confusion with true shrews, they now stick to “sengi” as a common name, a term derived from the Bantu languages of Africa.



Jack Dumbacher

Monogamous Mates

Although monogamy is found in less than 10 percent of mammals, sengis mate for life. While monogamous couples share overlapping home ranges, males spend little time with their mates or offspring.



Journey to the Stars

New planetarium show opens on September 26, 2009

FOR THE PAST YEAR, MORRISON Planetarium's inaugural show *Fragile Planet* has transported audiences to the Moon, Mars, and beyond the solar system in search of extraterrestrial life. On September 26, 2009—almost one year to the day since the new Academy opened—the planetarium's second space show will debut to the public, launching audiences on a different but equally spectacular cosmic journey.

Narrated by Whoopi Goldberg, *Journey to the Stars* travels through time and space to explore the dramatic lives and deaths of stars. The show begins with a sunset over the Golden Gate Bridge, then delves 13 billion years into the past, when the first stars were born. Along their journey, audiences will witness the brilliant supernova

explosions that sent new kinds of matter coursing through space, seeding the Universe with the elements necessary for life as we know it. They will also dive into the heart of the fiery Sun, where nuclear fusion occurs, and glimpse its eventual demise as it transforms into a massive red giant some five billion years in the future. By the end of the show, which depicts sunrise over downtown San Francisco, visitors will have toured stellar formations, explored celestial mysteries, and discovered the deep-rooted connection between humanity and the stars.

Like *Fragile Planet*, *Journey to the Stars* will be tailored to the all-digital planetarium's 75-foot-diameter screen and continue the tradition of facilitation by a live presenter. It will play 7-10 times a day, every day in

Morrison Planetarium until the fall of 2010. In addition, the Academy's Benjamin Dean Astronomy Lectures in early 2010 will give audiences a chance to meet the scientists who worked with *Journey's* production team. The January Dean Lecture will feature Dr. Ben Oppenheimer, astrophysicist and curator for the show. Check www.calacademy.org/events in the coming months for details.

Journey to the Stars was developed by the American Museum of Natural History, New York (www.amnh.org) in collaboration with the California Academy of Sciences as well as GOTO INC., Tokyo, Japan; Papalote Museo del Niño, Mexico City, Mexico; and the Smithsonian National Air and Space Museum, Washington, D.C.

Globetrotting in 2010 with the Academy

FROM CHURCHILL, CANADA (55° N, 108° W) in the Arctic tundra to sub-equatorial Cape Town, South Africa (34° S, 18° E), the Academy's tours in 2010 will span the globe and offer a range of experiences designed to create a deeper appreciation for the Earth and its inhabitants.

Would you like to glimpse humpback whales and sea bird rookeries while cruising along the remote and ruggedly beautiful coastline of Northwest Australia? Dr. Chris Andrews, Director of Steinhart Aquarium, will take you to horizontal waterfalls and aboriginal rock art thought to be up to 50,000 years old. What about exploring the dramatic rainforests and reefs of Belize, where you can swim with whale sharks and paddle a canoe through a subterranean cave? The Academy's Dean of Research Dr. David Mindell will help you understand the local ecology of this World Heritage site.

Invertebrate zoologist Dr. Terry Gosliner will take a group to South

Africa and Mozambique, home to some of the continent's largest wildlife reserves. "South Africa is a land of immense contrasts, with some of the richest wildlife anywhere in the world," he says. "We'll have the rare opportunity to see the Cape Floristic Province, the richest of the five Mediterranean climate regions in the world, in full bloom in the southwestern Cape." And paleontologists Dr. Carol Tang and Dr. Peter Roopnarine will team up to lead a cruise along Egypt's legendary Nile River, lined with the wonders of ancient civilization. They will talk about these sites from an ecological perspective, discussing climate change and the geology and evolution of the Nile, which still plays a critical role in Egypt's economy and culture.

All itineraries are designed on an intimate scale to provide rare access to sites beyond the reach of most tourist operations. Whatever longitude and latitude you choose to explore, you're bound to experience an in-depth, thought-provoking journey that will change the way you understand planet Earth.

The 2010 Academy Travel Program

Galápagos Islands aboard the *Isabela II*

Academy Leader: Bob Van Syoc
January 18-27, 2010

Belize

Academy Leader: David Mindell
April 25 - May 2, 2010

Galápagos Family aboard the *Santa Cruz*

Academy Leader: Healy Hamilton
June 20-29, 2010

Churchill, Canada

Academy Leader: Meg Burke
July 24 - August 1, 2010

Northern Australia

Academy Leader: Chris Andrews
August 6-17, 2010

South Africa

Academy Leader: Terry Gosliner
September 19-30, 2010

Egypt aboard the *Sonesta Nile Goddess*

Academy Leaders: Carol Tang and Peter Roopnarine
October 14-24, 2010

Bhutan

Academy Leaders: Greg and Jean Farrington
November 7-21, 2010

Two more adventures still in development:

East Africa and Cuba

Call (800) 853-9372 today to add your name to the priority traveler list for East Africa or Cuba!

Priority travelers will receive the first opportunity to book before these trips are publicized to all members.

For more information or to secure your space, please contact the Academy Travel Office at (800) 853-9372 or calacademy@hcaptravel.com. Visit the website at www.calacademy.org/events/travel.



Clockwise from top: Caracol in Belize; Churchill, Canada; iguana from Belize



Mapping Our Future

Using an unprecedented amount of data, Academy scientist Healy Hamilton is working to predict the impacts of climate change on some of the most iconic species in the American West—and providing a valuable tool for conservation managers.

BY STEPHANIE STONE

IF A PICTURE IS WORTH A THOUSAND WORDS, A MAP is arguably worth a thousand pictures—especially when that map can illustrate how habitats will shift over the next 100 years in response to different levels of greenhouse gas emissions. Dr. Healy Hamilton, the director of the Academy’s Center for Biodiversity Research, is working with an interdisciplinary team of scientists to create maps that can do just that, leveraging both the museum’s extensive research collections and its state-of-the-art mapping and visualization software. While Hamilton and her team are not the first scientists to model the impacts of climate change on future species ranges, their projections incorporate far more data than those of previous models, resulting in maps that are more detailed and less uncertain. These high-resolution maps, which project the future ranges of key species under different climate scenarios on a ten by ten kilometer grid, are providing some of the first actionable data for conservation managers who must now plan for the impact of global climate change.

“We know that species are already responding to the relatively small amount of climate change we’ve experienced

so far,” says Hamilton, “so there is no doubt that species are on the move. The question is: Where will they be in 50 or 100 years, and how can we help them adapt?” The first step toward answering this question is to create what Hamilton calls a “climate envelope” for a given species. By inputting occurrence data from museum specimens collected over the past century and from field biologists tracking those same species today, Hamilton can establish the preferred environmental parameters for a given species, such as temperature and precipitation ranges.

It would be impossible to create climate envelopes for every species in an ecosystem, so Hamilton chooses key species to serve as proxies for the other members of their communities. These species are often conservation targets—charismatic or iconic plants and animals that play a pivotal role in their ecosystems. While climate change will affect species distributions across the globe, Hamilton has focused her first projections on the American West, where she has created climate envelopes for such key species as the wolverine, the Canadian lynx, the snowshoe hare, and two species of redwood trees.

ONCE HAMILTON HAS ESTABLISHED A CLIMATE envelope for a particular species, the next step is to determine where those environmental conditions will exist in the future. This is when the need for serious computing power and data storage capacity comes into play. The Intergovernmental Panel on Climate Change (IPCC) has vetted almost two dozen Global Circulation Models constructed by research teams around the world, each of which uses somewhat different techniques to predict future global climate under multiple scenarios of greenhouse gas emissions. While past attempts to predict the impact of climate change on biodiversity have leveraged just one or a few of these models, Hamilton and her team are utilizing data from 17 different models to generate “future climate surfaces” with a much greater degree of statistical confidence. The IPCC climate models, however, are built at a coarse spatial resolution, typically using a grid of 288 by 288 kilometers—much too coarse to understand climate impacts on localized plants and animals. In order to create maps at a fine enough spatial scale to be useful to conservation managers, Hamilton must “downscale” each of these 17 models, using complex calculations to fill in climate data on a higher-resolution grid of ten by ten kilometer cells. Additionally, she is mapping future climate surfaces across the globe under two different greenhouse gas emission scenarios: a pessimistic scenario in which carbon emissions continue building rapidly for the next 100 years, and an optimistic scenario in which global emissions stabilize by mid-century.

All told, Hamilton and her team have now built more than 7,000 high-resolution future climate surfaces that cover every inch of land on the planet—and have created more than a million electronic files in the process. The data storage needs for this work are so immense that Hamilton would have been unable to proceed without a hefty hardware donation from NetApp, a global data storage company based in Sunnyvale. Her new hardware system has the capacity to store over 400 terabytes of data—more than 1,000 times as much as a well-equipped home computer.

ALTHOUGH HAMILTON’S FUTURE CLIMATE SURFACES are interesting in and of themselves, they really begin to speak volumes when she overlays the “climate envelope” data from a key species to see how the range of a plant or animal is predicted to shift under both the pessimistic and optimistic scenarios for greenhouse gas emissions. “When you look at these maps, you realize it’s not just that species are

going to shift north or shift up a mountain,” says Hamilton. “Yes, in many cases that happens, but our projections show that there are also places where species exist today that should still provide suitable habitat in the future. These places, these climate refugia, should be conservation priorities.”

Indeed, Hamilton has identified a number of climate refugia for key species across the American West, some of which happen to fall within existing national park boundaries. Those refugia that are not already part of a protected area network can in many cases be targeted by conservation organizations with land purchasing or management programs. Hamilton’s projections for redwood trees provide a perfect case in point. Her pessimistic-case model for coast redwoods indicates that climate conditions will become unsuitable for these iconic trees through much of California by 2090, with the exception of a few small patches in Humboldt and Del Norte counties. “Redwood trees take a long time to die, so they won’t disappear overnight,” explains Hamilton. “But new seedlings may no longer be able to take root, and eventually those forests will be gone.” However, even under this pessimistic scenario, Hamilton has identified a climate refugium for redwoods in northern Humboldt County—an area currently carpeted in redwoods that, according to the projections, should still provide an optimal climate for the trees 100 years from now. Based on these findings, Save the Redwoods League can now evaluate land purchase opportunities in this region.

Hamilton’s projections also highlight the importance of wildlife corridors that allow species to move as their habitat shifts. In January, she presented preliminary maps for seven key species at the Western Conservation Summit, a three-day meeting hosted by the Wildlands Network that brought together such renowned scientists as E. O. Wilson, Paul Ehrlich, and Michael Soulé to discuss conservation priorities for the American West. In many cases, these species will be able to find appropriate habitat even as climate change causes their ranges to shift because of the largely-intact wilderness corridor that extends from Sonora up through the Rocky Mountains and into Alaska. For instance, although Hamilton’s pessimistic model for wolverines suggests that these fierce animals will become locally extinct in the lower 48 states by 2090, the optimistic model highlights pockets of habitat within the Yellowstone to Yukon conservation corridor where wolverines will be able to survive. “When Healy presented her preliminary models to the Western Conservation Summit, I was blown away,” says Wendy

Based on Hamilton’s findings, Save the Redwoods League can now evaluate land purchase opportunities in northern Humboldt County—an area that should still provide an optimal climate for redwood trees 100 years from now.

Francis, Director of Conservation, Science and Action for the Yellowstone to Yukon Conservation Initiative (Y2Y). “At Y2Y we are promoting a vision of interconnected protected areas through the Rocky Mountains all the way to the Arctic Circle. Healy’s models demonstrate how critically important such a vision is to creating the conditions in which animals will be able to move and adapt in response to climate change.”

Perhaps the most powerful message of all within Healy’s maps is the idea that the destiny of these species is not yet set in stone. “There are profound differences in the impacts of climate change on biodiversity depending on our future greenhouse gas emissions,” says Hamilton. “When we model under pessimistic scenarios, the outcomes reveal a world so different—the impacts will be devastating to wildlife. But if we can stabilize our emissions levels, and if we implement the right conservation measures, most species will be able to adapt.” Change, Hamilton says, will still happen. Species will still have to move. But the change won’t be as dramatic, and we’ll be able to plan for it. “If there’s one thing I want people to understand about these models,” says Hamilton, “it’s that

message of hope—that if we take steps to reduce our carbon footprint, we can create a meaningfully better future for the other species on our planet, and ultimately for ourselves.”

The wolverine is considered an important predator in healthy North American ecosystems.



Forecasted suitable habitat for wolverines from the present to 2090

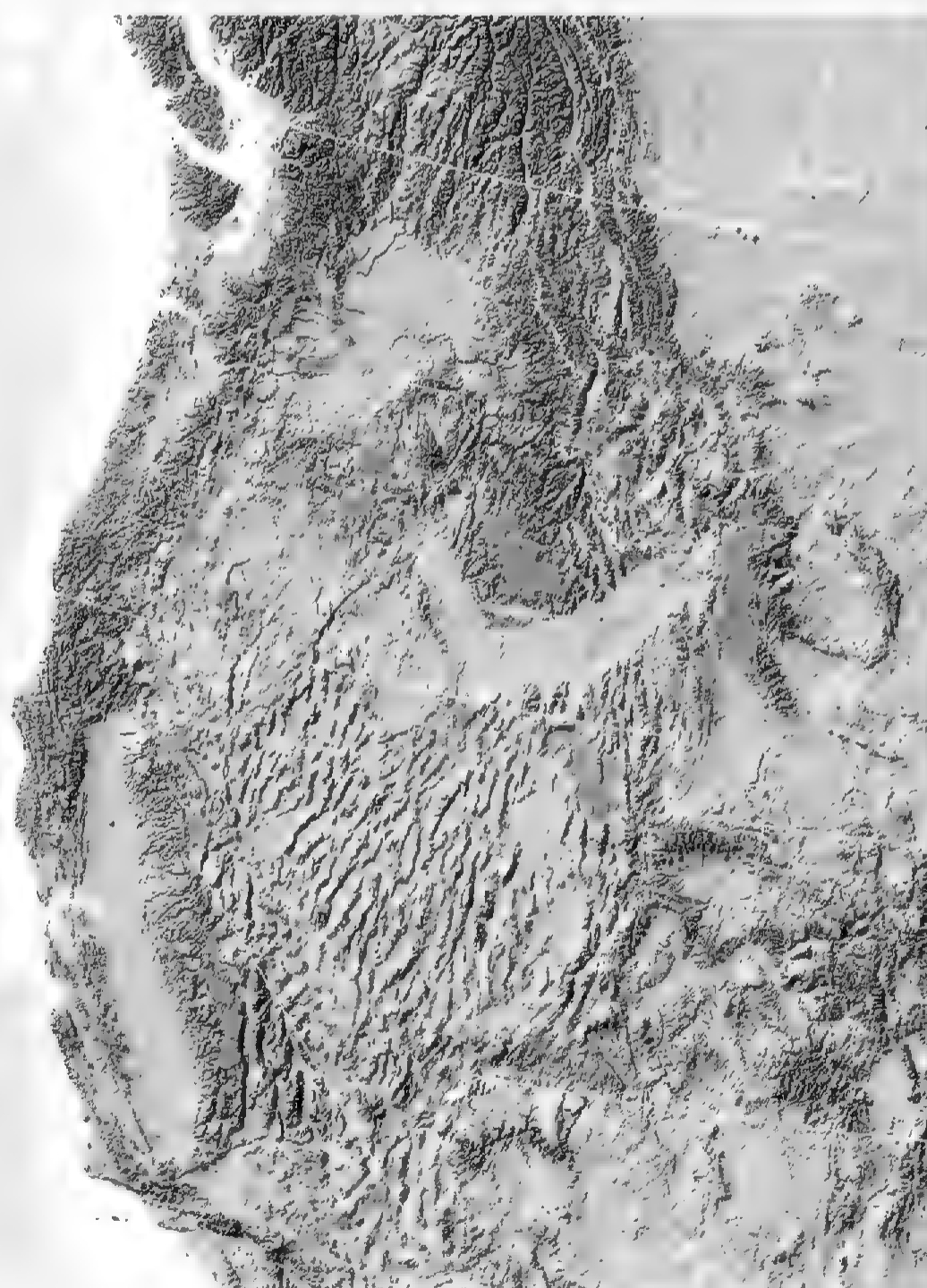
These maps use data from 17 different global climate models to forecast the current and future suitable habitat for wolverines in North America. The legend below indicates the amount of agreement between these different models in predicting suitable habitat.

80-100% model agreement 60-79% model agreement 40-59% model agreement



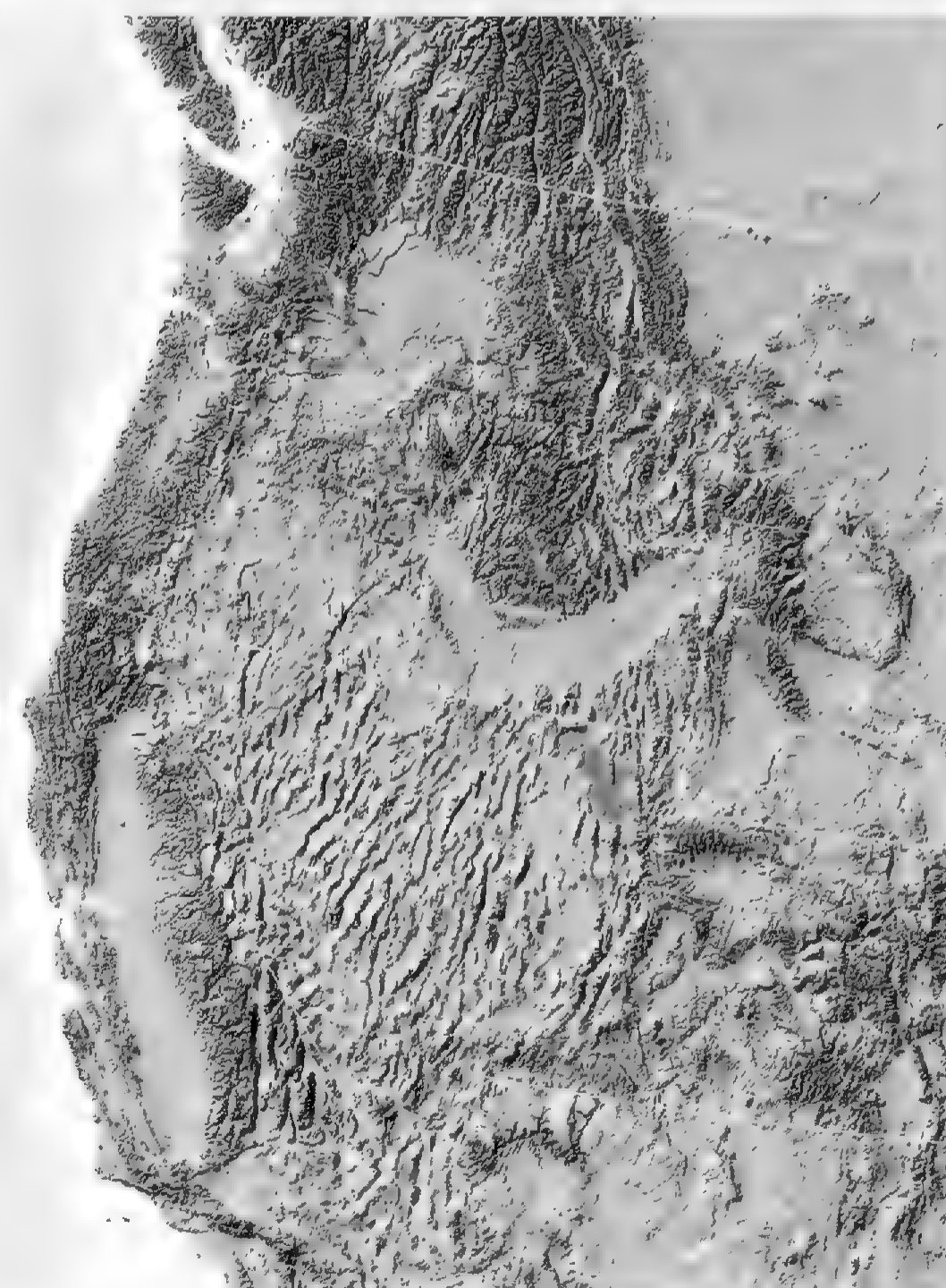
Current Model

This map represents current suitable habitat for wolverines in the lower 48 states. Their actual range, however, is smaller; wolverine sightings in California are extremely rare.



Optimistic Model

Based on climate projections from 17 global climate models run under an optimistic carbon emissions scenario, this map represents potential suitable habitat for wolverines in 2090.



Pessimistic Model

Under a pessimistic scenario of carbon emissions, these same 17 climate models predict that wolverine habitat might almost disappear by 2090.

Daily and Weekly Programs

Planetarium Shows

Take place 7-10 times a day, depending on the day. Proceed to the planetarium entrance upon arrival for the day's schedule and to pick up your passes.

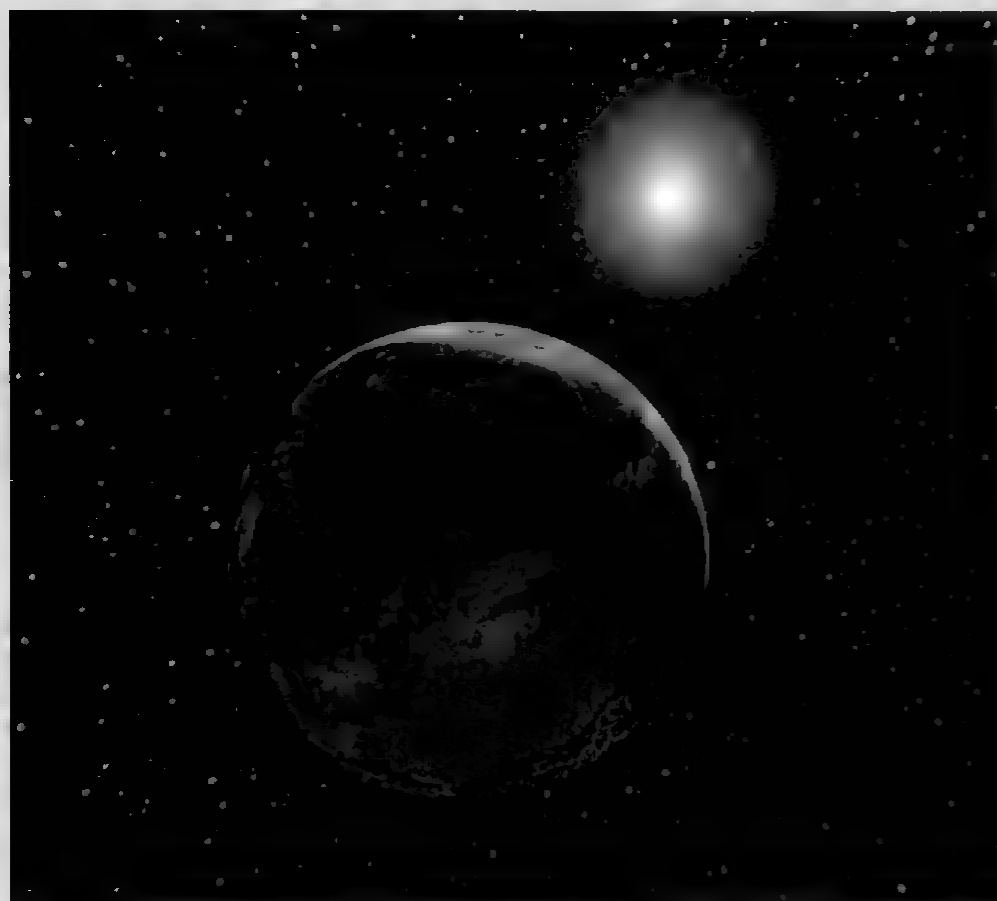
Note: Seats are limited and on a first-come, first-served basis.

Fragile Planet

Ends Friday, September 25!

Leave Planet Earth behind as you fly to the farthest reaches of the Universe in this 30-minute show. Begin your voyage at the Academy, lift off through the atmosphere to gain an astronaut's view of Earth, then travel to the Moon, Mars, and beyond to search for habitats that might support life.

Note: After September 25, Fragile Planet will continue to be shown at the weekly NightLife events.



Journey to the Stars

Starts Saturday, September 26

Travel through time and space to experience the dramatic lives and deaths of stars. Witness brilliant supernova explosions, dive into the heart of the fiery Sun, and watch it transform into a red giant five billion years in the future. Along the way, you will discover the deep-rooted connection between humanity and the stars.

Children's Story Time (ages 2-5)

Tuesdays at 9:15 am (members only)

Thursdays and Saturdays at 11:00 am

Location: Early Explorers Cove



Children ages 2-5 and their parents are invited to hear stories about the natural world. Space is limited.

Science Adventures (ages 6-10)

Sundays at 2:15 pm

Location: Education Classroom (Level 3)

Explore the natural world through stories, experiments, games, and crafts.

Science Up Close

Wednesdays at 11:30 am

Location: Naturalist Center

In these mini-presentations, find out about a different Naturalist Center specimen each week.

Bugs!

Monday - Saturday: Every hour on the hour from 10:00 am - 4:00 pm

Sunday: Every hour on the hour from 11:00 am - 4:00 pm

Location: Hearst Forum 3D Theater

Note: The 11:00 am show on Sunday is offered exclusively for members.

This 25-minute film is a remarkable foray into the insect life of Borneo. Using immersive 3D technology, *Bugs!* follows the life cycles of Hierodula, the praying mantis, and Papilio, the butterfly.

Penguin Feeding

Daily at 10:30 am and 3:30 pm

Location: African Hall

Meet Pierre, Ocio, and the rest of the African penguin colony. Aquarium biologists field visitor questions as they feed and care for the birds.



Coral Reef Dive

Daily at 11:30 am and 2:30 pm

Location: Philippine Coral Reef

Meet a diver who descends into the exhibit to introduce you to the world's deepest living coral reef tank.

Lagoon Feeding

Tuesdays and Thursdays at 3:00 pm

Location: Reef Lagoon (Level 1)

Sharks and rays are some of the most compelling and misunderstood animals on the planet. Meet the biologists of Steinhart Aquarium who care for these creatures, and uncover the facts behind the fiction.

Swamp Talk

Weekdays at 1:00 pm

Saturdays and Sundays at 11:00 am, 1:00 pm, and 3:00 pm

Find out what it takes to care for the alligator and turtles, which are native to swamps in the southeastern United States.

Family Nature Crafts

Sundays from 11:00 am - 12:30 pm

Location: Check lobby for location

Families with children ages 4-8 are invited to make nature-themed crafts.



Explore the Living Roof with a Naturalist

Mondays from 3:30 - 4:30 pm

Location: Meet in Naturalist Center

Learn about the Academy's 2.5-acre living roof and its 1.7 million native plants.

Explore Science!

Second Wednesday of the month at 3:00 pm

Location: Check lobby for location

Stop by for lively science talks and fun animal demonstrations.

Cell Phone Audio Tours

Look for this logo at certain exhibits indicating a cell phone audio tour stop.

When you dial (415)

294-3602, you will hear

Academy staff sharing behind-the-scenes insights into the exhibit. This service is free except for the cost of minutes, according to your own cell phone plan.



Special Events

Celebrate the New Academy's One-Year Anniversary



It's hard to believe that one year has passed since the Academy opened its new building in Golden Gate Park. In that time, dozens of baby animals were born in the aquarium, thousands of flowers blossomed on the living roof, and two million visitors walked through the front doors.

Celebrate this amazing first year with a weekend-long celebration of science on September 26 and 27, presented

by Pacific Gas and Electric Company (PG&E). Festivities will include appearances by animal ambassadors such as big cats and birds of prey, science demonstrations, performances by renowned dance troupes, and celebratory African drumming, as well as the premiere of a new planetarium show, *Journey to the Stars*. A stage in the Academy's west garden will host headliner events throughout the weekend, and a tent in the east garden will feature additional activities and programs. Check www.calacademy.org/events for details.



Anniversary Special: Members Receive a 20% Store Discount in October

Academy members will receive a double discount (20%) on all regularly-priced merchandise in the Academy stores, as well as online at www.calacademy.org/store, during the month of October. Present your current membership card, or type in the code "member09" for online orders, to receive this double discount.

Things that Scare the Staff

Throughout the month of October, check out some of the scariest specimens in the Academy's research collections. Hand-picked by the museum's scientists, these specimens will be on display near the public Research Lab, and include such chill-inducing species as the Death's head hawkmoth—the skull-patterned moth featured in *Silence of the Lambs*.

Green Halloween Party

Friday, October 23 from 5:00 - 8:30 pm

Note: The Academy will close to the public at 3:00 pm.

The 18th Annual Family Halloween Party, presented by the Academy Guild, benefits Academy education and research programs. RSVP and purchase tickets online at www.calacademy.org/halloween or by phone at (415) 379-5411.

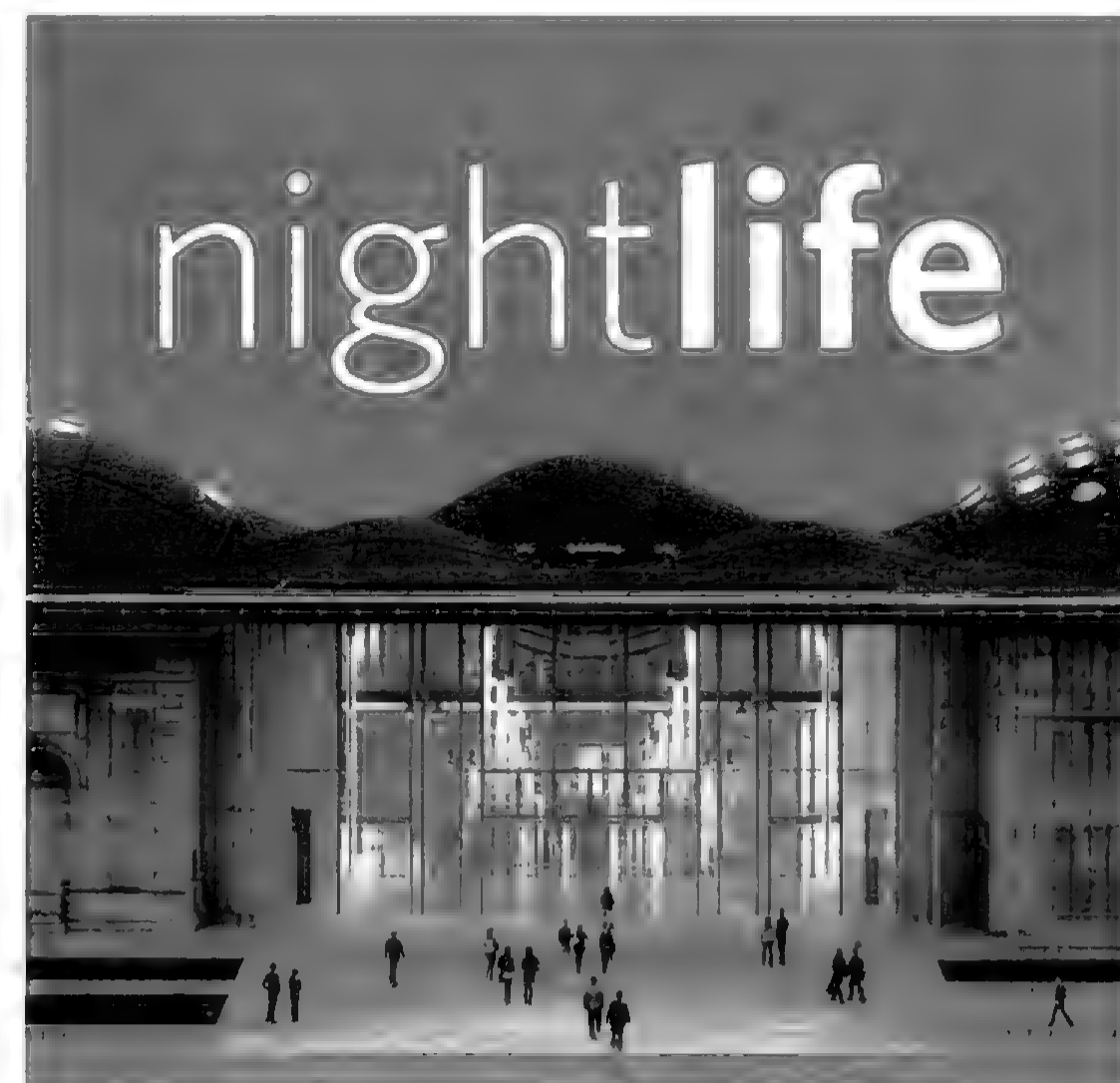


Creepy Crawly Week

Saturday, October 24 – Sunday, November 1

In honor of Halloween, face your fears and join the Academy's naturalists for lessons about creepy-crawly critters, including tarantulas, scorpions, snakes, and alligators. A special scavenger hunt will help visitors track down some of the creepiest critters in the building. Additionally, daily programs will allow you to meet—and sometimes touch—these traditionally frightening animals. You may even learn that they're not as scary as you think! A celebration for Día de los Muertos (Day of the Dead) will wrap up the week's festivities on November 1.

To learn more, visit www.calacademy.org/events.



Every Thursday from 6:00 - 10:00 pm

Note: There is no NightLife on November 26, 2009.

Gaze into the stars, get up close and personal with aquarium critters, explore art with a scientific edge, and much more during the Academy's weekly NightLife events. Tickets cost \$10 for members, \$12 non-members. NightLife is for patrons ages 21 and over; a valid ID is required for entry.

Upcoming NightLife events will include programs sponsored by the 11th Hour Project in September, as well as special presentations about the Rocky Mountain Institute and the Golden Gate Raptor Observatory in October. November programming will include author presentations in partnership with *Narrative Magazine* and a talk by the creators of *Evidence of Evolution*, a new book showcasing the Academy's specimens. Check www.calacademy.org/nightlife for a schedule of events.

New! NightLife VIP Tours

Want an entirely different NightLife experience? Take a VIP Tour. Tickets include admission to NightLife, a one-hour behind-the-scenes tour with a private viewing of the Academy's gem and mineral collection, interaction with Academy researchers in the lab, express entry into the building, an open bar in a reserved cocktail area prior to the tour, VIP access to the Rainforest, and a reserved pass for the 8:30 planetarium show. Tickets are \$59 per person; visit www.calacademy.org/visit/tours for details.

Lectures

Pritzker Lectures

Pritzker Lectures are geared toward an adult audience and feature engaging speakers from the Bay Area and beyond on topics related to the Academy's mission. These lectures take place in the Forum on Level 2.

Reservations: Free for members, \$12 non-member adults, \$10 non-member seniors. To reserve a seat or purchase tickets, visit www.calacademy.org/event_tickets or call (800) 794-7576. Seating is limited and admission is for the lecture only. Tickets for admission to the rest of the Academy are separate and optional.

Gorillas in the Mix and the Great Animal Orchestra

Tuesday, September 22 at 12:15 and 6:30 pm

Dr. Bernie Krause, Wild Sanctuary

Every living organism produces sound. This presentation will focus on the symbiotic ways in which the sounds of one organism affect and interrelate with other organisms, local and regional, within a given habitat. Learn about unusual soundscapes and their relevance to preserving natural sounds worldwide. Biophony—the notion that all sounds in undisturbed natural habitats fit into unique niches, much like the instruments in an orchestra—will be used to illustrate the ways in which animals taught humans to dance and sing.



Research in the Gulf of the Farallones National Marine Sanctuary

Tuesday, October 20 at 12:15 and 6:30 pm

Speaker to be announced

This past summer, the Academy debuted the first ever webcam on the Farallon National Wildlife Refuge. Learn more about these islands and the surrounding waters off the coast of San Francisco, and what the latest research is revealing.



Evidence of Evolution: The Collections and the Book

Tuesday, November 10 at 12:15 pm

Susan Middleton, Academy research associate and photographer
Mary Ellen Hannibal, science writer, *Leaves and Pods*

This month marks the 150th anniversary of Charles Darwin's *On the Origin of Species*. To commemorate this treatise on the theory of evolution, Middleton and Hannibal have published *Evidence of Evolution*, which combines exquisite images of specimens from the Academy's own collections (from butterflies and giant tortoises to Darwin's finches) with clear text to reveal patterns of evolutionary development in animals and plants. Learn more about this evidence of evolution and the creation of "a natural history museum in a book." A book signing will follow the talk.

Note: On Thursday, November 12, Middleton and Hannibal will repeat their presentation at NightLife.

Benjamin Dean Lecture Series

This popular astronomy lecture series takes place every month inside Morrison Planetarium.

Reservations: \$6 for members, \$12 non-member adults, \$10 non-member seniors. Seating is limited. Purchase tickets in advance by calling (800) 794-7576 or online at www.calacademy.org/event_tickets.

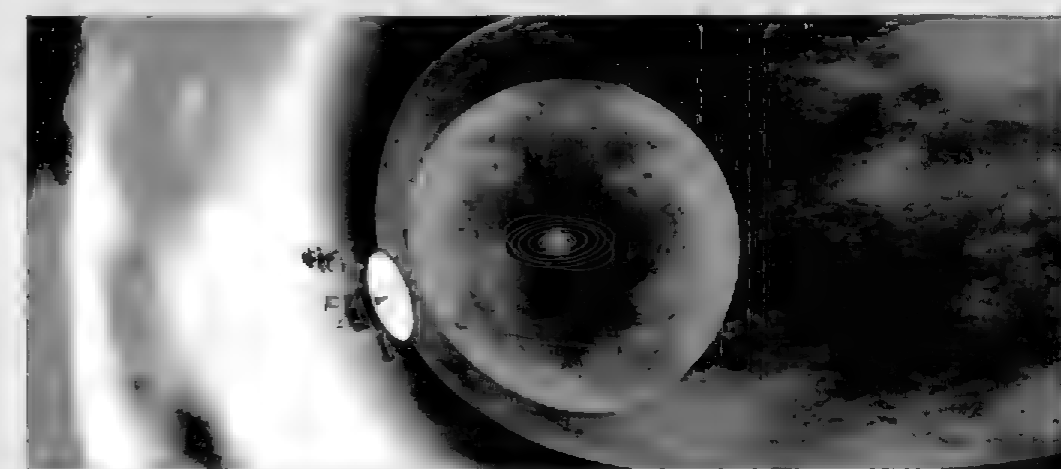
The Voyager Journey to Interstellar Space

Monday, September 14 at 7:30 pm

Dr. Edward Stone

California Institute of Technology

Launched in 1977 to explore Jupiter, Saturn, Uranus, and Neptune, the two Voyager spacecrafts revealed the remarkable diversity of these giant planetary systems. Now eight and ten billion miles from Earth, the Voyagers are exploring the outermost layer of the bubble created by the Sun as they continue their journey to interstellar space.



High-Energy Sources in Space

Monday, October 19 at 7:30 pm

Dr. Lynn Cominsky

Sonoma State University

Dr. Cominsky will discuss her research on high-energy sources in space, particularly gamma-ray bursts, pulsars, and active galactic nuclei.

The Brightest Supernova Ever Detected

Monday, November 2 at 7:30 pm

Dr. David Pooley

University of Wisconsin-Madison

Join the co-discoverer of SN 2006gy as he describes why it has been called a "hypernova," a "quark-nova," and "the brightest supernova ever detected."

BioForum Series

Join renowned scientists and fellow educators for the 25th annual BioForum, a seminar series focused on current science topics. Starting this year, related articles, lessons, and symposia video footage will be available online.

Note: This event is restricted to current science teachers.

Genomics: Insights and Impacts Saturday, October 3 from 9:00 am - 3:00 pm

Moderated by Dr. Brian Simison,
Curator of Comparative Genomics

The current renaissance in the biological sciences is spurring the growth of new fields like functional and comparative genomics. These fields are transforming the way scientists look at life, and are revealing insights into evolutionary biology, medicine, developmental biology, and many other areas. Join a discussion about genomics, compelling current research, and the future of this rapidly advancing field.

Reservations: \$25 for current science teachers (coffee and lunch included). Advance registration is required at www.calacademy.org/teachers or (800) 794-7576. Questions? Call (415) 379-5105.

Book Discussions

Bookworms is a book discussion group for adults. Space is limited; advance reservations are encouraged.

Reservations: Free. To reserve a space, visit www.calacademy.org/event_tickets or call (800) 794-7576. Meet at the Business Reception Desk off the Middle Drive entrance.

Science Made Fun

The Canon: A Whirligig Tour of the Beautiful Basics of Science by Natalie Angier
Tuesday, September 15 at 6:30 pm

Join a discussion of Angier's primer on scientific topics, ranging from thinking scientifically to geology, astronomy, and evolutionary biology. A *New York Times* columnist and Pulitzer Prize-winning journalist, Angier asked scientists, "What do you wish everyone knew about your field?" The results are in *The Canon*.

Randomness, Chance, and Probability
The Drunkard's Walk: How Randomness Rules Our Lives by Leonard Mlodinow
Tuesday, October 13 at 6:30 pm

What role do numbers play in people's daily lives? How does one interpret chance events and how do they impact future behavior in a particular situation? How reliable or unreliable are wine

ratings, political polls, and school grades? Physicist Mlodinow's book on predictability—or the lack thereof—is sure to challenge some of your views.

Sharks and the Farallones

The Devil's Teeth: A True Story of Obsession and Survival among America's Great White Sharks by Susan Casey

Tuesday, November 3 at 6:30 pm



The Farallon Islands, inhospitable and dramatic, are feeding grounds for sharks. The book group will discuss Susan Casey's account of two biologists who have spent years in this outdoor lab observing and learning more about the behavior of these creatures. See the Academy's live Farallones webcam right now at www.calacademy.org/webcams/farallones.

Members Receive a 10% Discount on SharpShooter Photos

Take home a memento the next time you visit the Academy. Get your picture taken by a SharpShooter representative at the main entrance or the shark jaw model near the Swamp, and present your membership card for a 10% discount when you purchase your photo on site.

Membership Card Reminder

To help the Academy conserve resources, remember to retain your membership card as long as your membership is active. When you renew each year, you will use the same card. Please note that there is a \$5.00 fee per membership to replace lost or stolen cards.

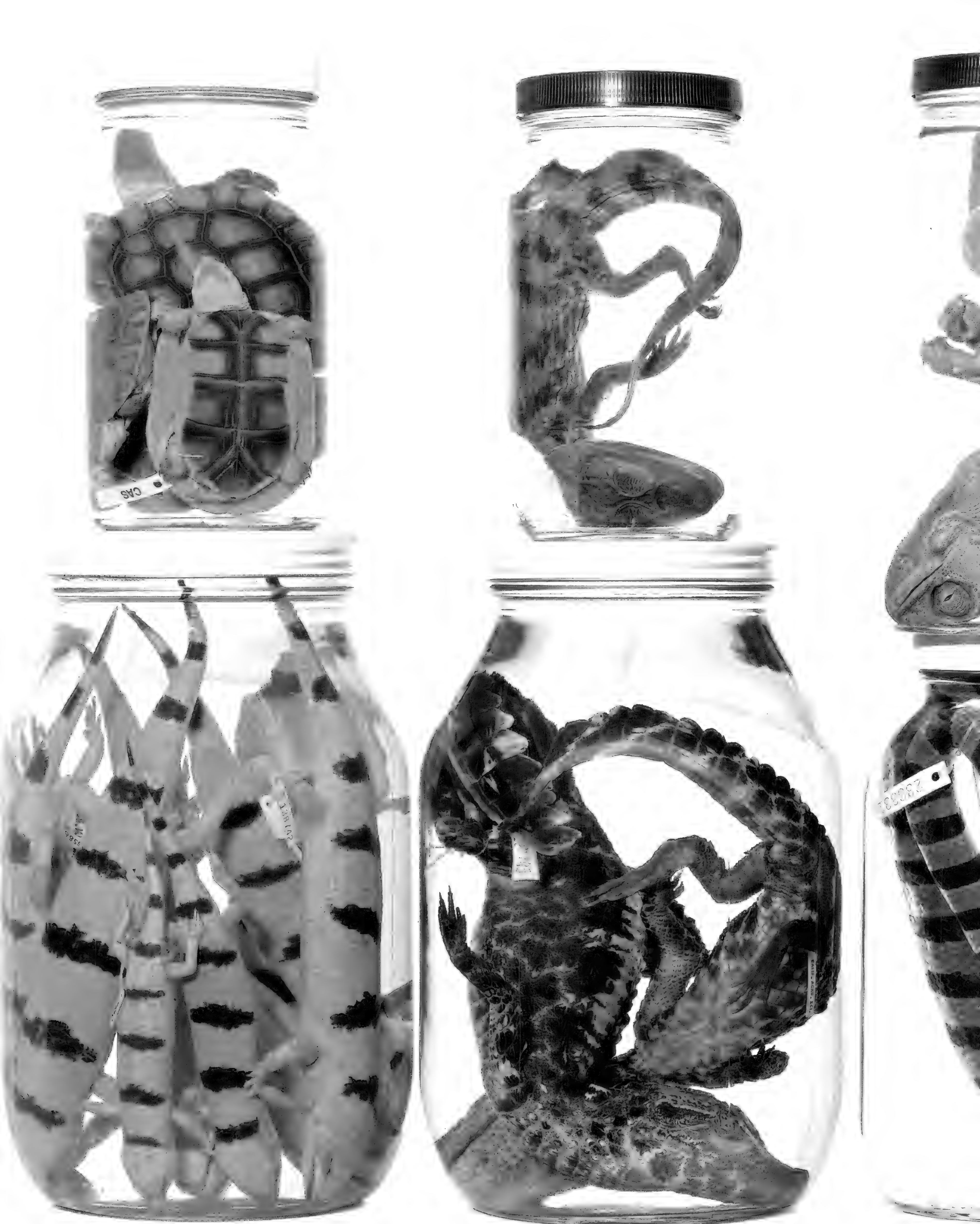
Drop-in Activities

Naturalist Center

Located on Level 3, the Naturalist Center is your stop for questions about the natural world. Browse the latest science books and magazines, test your knowledge with puzzles and games for ages eight and up, surf one of the recommended websites, and view a wide variety of natural history specimens. In addition, mystery boxes on skulls, corals, tidepools, and chocolate allow self-guided exploration and learning. You can also participate in one of the Academy's citizen science projects—pick up kits and instructions for the Bay Area Ant Survey or the Bay Area's Most Wanted Spider.

Early Explorers Cove

Take your scientist-in-training to a special exhibit designed especially for children ages five and under and their caregivers. *Early Explorers Cove* is divided into three themed activity areas: the Academy Schooner and California Backyard provide role-playing scenarios where stuffed animals and puppets fill out the cast of characters, while the Coral Reef area contains puzzles, building materials, and hands-on science. Open daily during member and public hours.



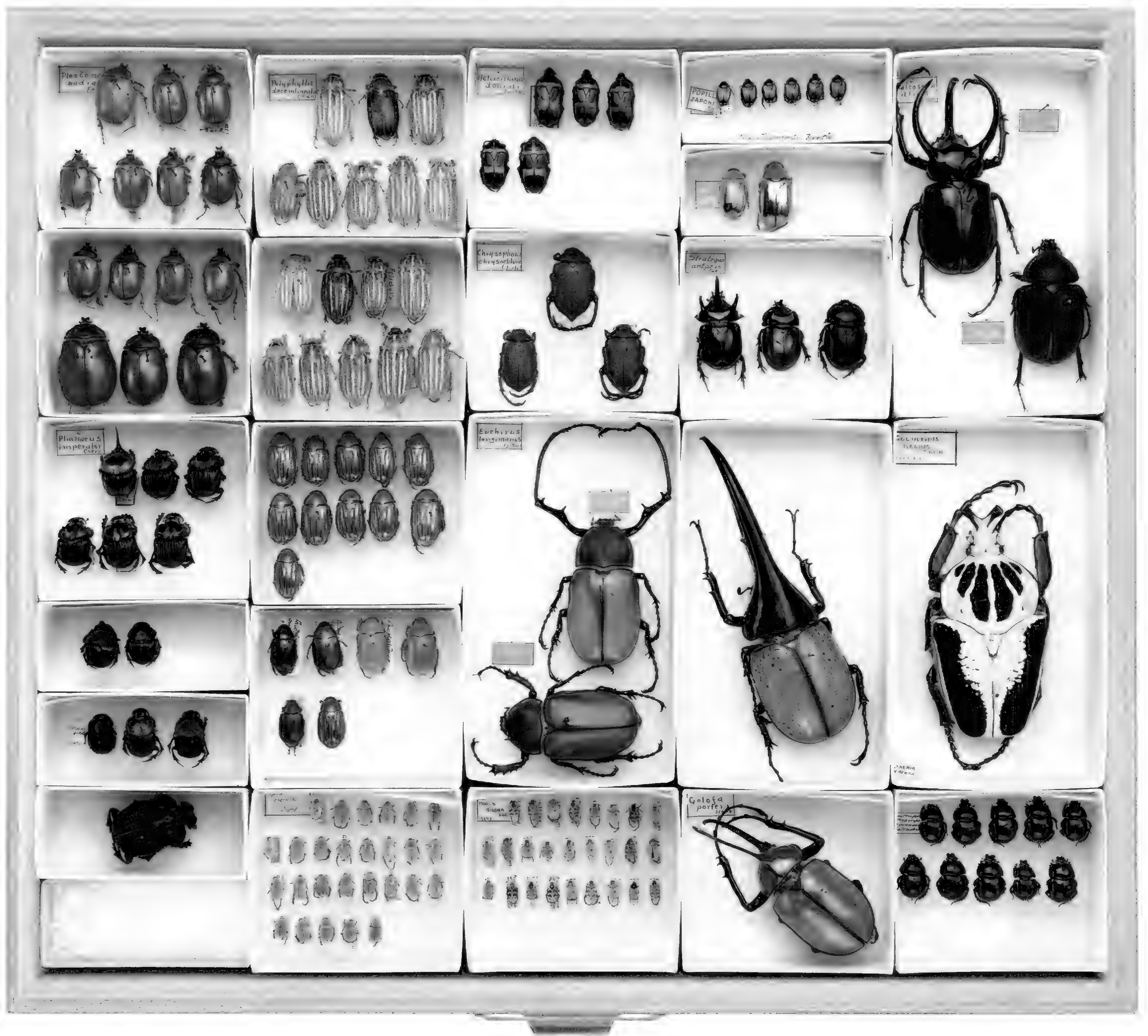


Evidence of Evolution

A new book uses specimens from the Academy's research collections to illustrate one of the most central concepts in modern science.

BY STEPHANIE STONE

THIS NOVEMBER MARKS THE 150TH anniversary of a major milestone in the history of science—the publication of Charles Darwin's *On the Origin of Species*. Despite the fact that he was in many ways ahead of his time, Darwin surely could not have predicted the many advances that his manuscript would eventually make possible. Over the past century and a half, scientists have leveraged the basic principles of evolution to develop groundbreaking applications in a wide variety of fields, including health care, agriculture,



biodiversity conservation, and even law enforcement. Indeed, the findings of evolutionary biology are now so thoroughly woven into the fabric of today's culture that it would be impossible to unravel them.

To commemorate Darwin's famous treatise on the theory of evolution, Academy research associate and photographer Susan Middleton teamed up with science writer Mary Ellen Hannibal to create a new book—a collection of exquisite photographs of Academy research specimens that reveal patterns of evolutionary development

in plants and animals. These images, which range from colorful beetles and butterflies to ancient denizens of the deep sea, are accompanied by a clear, accessible overview of the key evolutionary concepts that explain life on Earth. A coffee table book that blends science and art to express Darwin's ideas in a powerful new way, *Evidence of Evolution* will hit bookstores across the country on October 1. In the interview that follows, author Mary Ellen Hannibal talks about the inspiration for the book, the process of collaborating with Academy

scientists, and the evolutionary history of thorns and prickles.

SS: As both the author of *Evidence of Evolution* and the founder of Evolve 2009, San Francisco's city-wide celebration of the Darwin anniversaries, you have spent more than a few hours over the past year talking about evolution. Why is this subject a priority for you?

Mary Ellen Hannibal: Darwin's paradigm-shifting idea is regularly invoked in discussions of how life on Earth began, but it is perhaps much more important to understand what it reveals about how life

continues. Two centuries after Darwin's birth, our world is confronted with unparalleled conservation imperatives. The diverse array of species on our planet, the raw materials of evolution, are every day more threatened by human-caused climate change. All of us need to better appreciate the linkages that make life possible, to develop reverence for our fellow organisms. That's why Susan and I wanted to produce *Evidence of Evolution*. We wanted to make Darwin's ideas concrete and show how scientists are continuing his work today.

How did you decide which of the Academy's 26 million scientific specimens to include in the book?

We think of the word as meaning change, but evolution is from the Latin *evolvere*, to unfold, and so did the process of this book unfold. Susan and I began by interviewing over 20 curators at the Academy, the working scientists at the museum who study evolution every day. Taken together, the Academy's scientists are as diverse as a tray of beetles, but they do share some defining characteristics. They are all uniformly and infectiously enthusiastic about their work. Passionate is the word. They pulled out specimen after specimen—each one a favorite—and pointed out their adaptations and evolutionary relationships. As we went along, Susan and I bemoaned the space and time limits on our project. We absorbed enough information to fill a book four times the size of this one. Wonderful evolutionary stories inevitably wound up on the proverbial cutting room floor. However, we ended up with 95 images of specimens that are both visually arresting and have amazing stories to tell.

You had to take a crash course in evolution to write this book. How did it feel to be a student again?

The Academy's scientists are all natural teachers; they make it fun to learn. One of our first lessons came from John McCosker, curator of aquatic biology at the Academy, who took us to the anglerfish in the aquarium, and—using a holographic device—induced this tricky lady to shoot out her lure at us. The lure was a highly modified dorsal fin, an example of the spectacular adaptations evolution can produce. Over a sushi lunch, John explained the unique evolutionary

theater of the marine environment. Fish move through water like birds fly through air, but never have to land on a fixed surface. They live in a hyperspace covering more than 70 percent of the planet's surface. At one point, chopstick of sustainably-harvested tuna poised above his plate, John said, "I LOVE fish!"

I still smile remembering how Tom Daniel, one of the Academy's botany curators, explained to me that a thorn is a modified branch, a prickly is a modified epidermal hair, and a spine is a modified leaf. He illustrated the definitions by showing me specimens, and then he quizzed me: "Hair is an aid....?" "Against predation!" I think I shouted it.

Of all the specimens you wrote about, which were your favorites?

Maybe the Academy scientists are rubbing off on me, because I can't pick favorites, but I can share a few examples with you. Entomology curator Dave Kavanaugh pointed us to Darwin's hawkmoth—a famous example of co-evolution between plants and pollinators. Darwin predicted the existence of this moth in 1862, when he was presented with an orchid from Madagascar with an amazingly long "spur." Darwin correctly opined that a moth with an equally long proboscis must exist to pollinate the flower; the *Xanthopan morgani praedicta*, sporting a schnozz up to 14 inches long, was discovered in 1903.

Norm Penny, another entomologist, showed us the rare gyandromorph specimen of the California dogface butterfly—nobody really knows what genetic mix-up resulted in this half-male, half-female mutant. As more than one scientist mentioned, evolution is not so much a neat equation as a messy recipe.

Invertebrate zoologist Rich Mooi utterly beguiled us with revelations about the seemingly somnambulant sand dollar, which is actually constantly engaged in the arduous task of staying put in turbulent waters—we used the example to illustrate adaptation to the environment. Every specimen in the book has a similarly captivating story to tell.

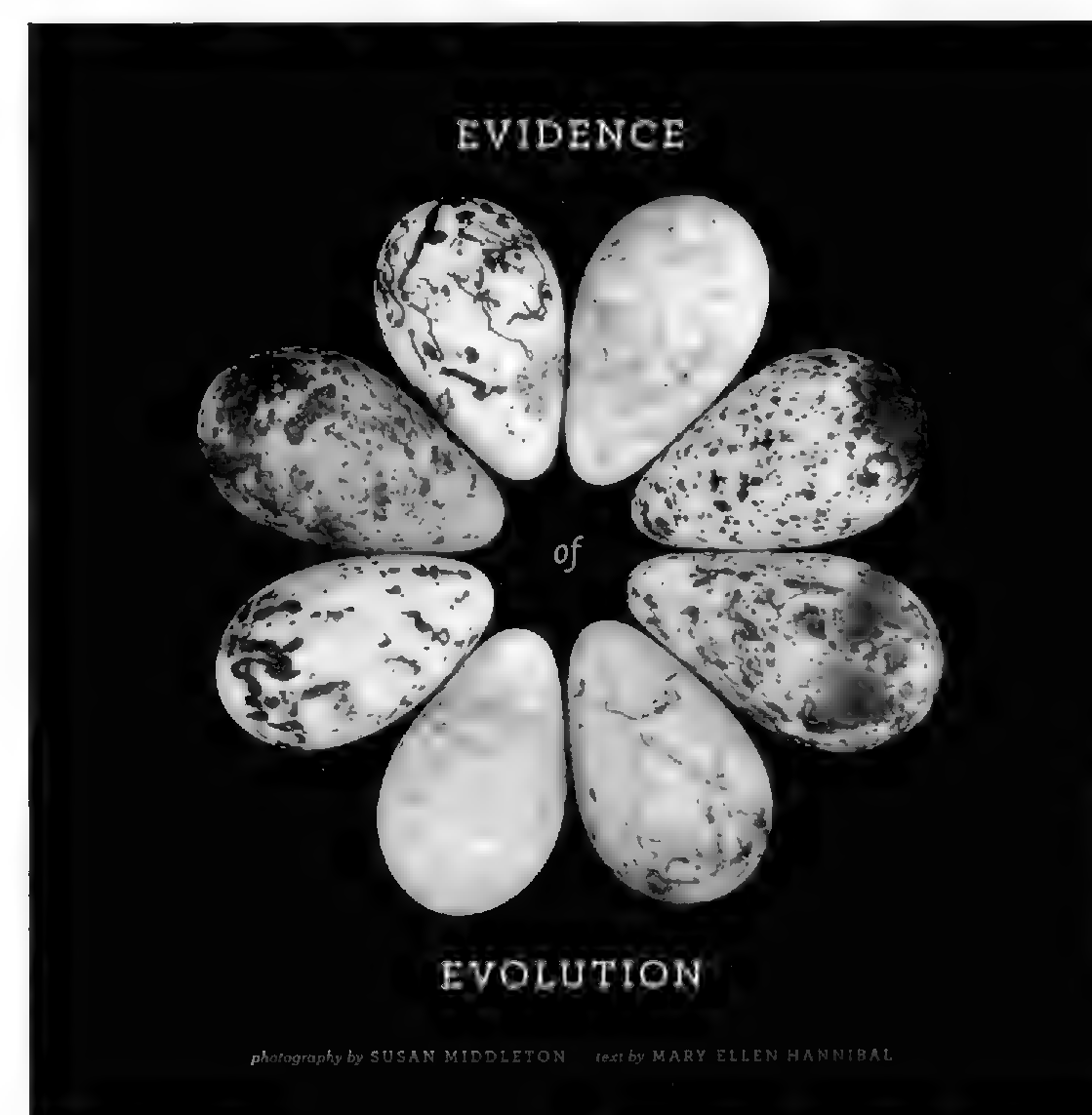
What did you learn about how museum scientists are continuing Darwin's work today?

One thing that's clear is that Darwin's work is far from over—scientists are

still discovering new species every day. Academy herpetologist Jens Vindum showed us a number of newly discovered frogs and lizards from Myanmar, many of which are the "holotype," or quintessence of their kind and the standard to which all subsequent specimens of the same species will be compared. These specimens, like the rest of the 26 million resources in the Academy's specimen library, are like photographs, capturing their moment in time. Since like all life forms they are composed of DNA, specimens contain a practically immeasurable dimension of information—what we know about them depends mostly on the changing nature of what we know to ask about them.

What Susan and I understood more deeply as our book unfolded is that Academy scientists are doing nothing less than transcribing the book of life. As John McCosker puts it, "We are identifying life on Earth—assigning names to all of the nouns and mapping the relationships between them. You have to get the nouns right, or the adjectives, verbs, and adverbs don't make any sense."

As for the collective work and passion of the scientists at the Academy, I think entomologist Brian Fisher said it best: "Science is discovery, and you get hooked on it." Susan and I sincerely hope our book helps spread the contagion.



Susan Middleton and Mary Ellen Hannibal will speak about their book at the Academy on November 10 and 12. For more information, see page 14. Evidence of Evolution will be available for purchase in the Academy Store and online at calacademy.org/evidence beginning October 1, 2009.

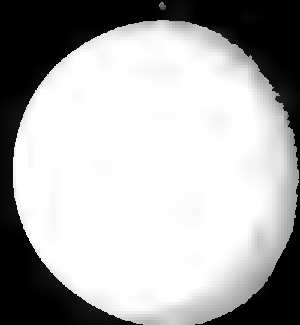
skyguide



Mercury

36 million miles
from the Sun

At the beginning of September, Mercury is already descending toward the setting Sun and is barely visible very low in the west just after sunset. Mercury is hidden by the glare of the Sun from the second week of September to the end of the month, when it moves to the morning sky in the company of Saturn and Venus. Watch for the three planets clustering tightly in the east before dawn during the second week of October. Mercury then retreats back toward the Sun, disappearing from view as it nears superior conjunction on November 5.



Venus

67.2 million miles
from the Sun

Venus is a morning object all season, rising in the east a couple of hours before dawn and gradually moving from Cancer into Leo and then into Virgo. Watch from morning to morning as it passes near the "Beehive" star cluster on September 1 (look with binoculars), near the bright star Regulus on September 20, near Saturn on October 12 and 13, and more distantly near the star Spica on November 3. The waning crescent Moon pairs up with Venus on the mornings of September 16, October 16 (with Saturn nearby), and November 15.



Mars

141.6 million miles
from the Sun

A morning object all season, the Red Planet wanders eastward from the stars of Gemini the Twins to between those of Cancer and Leo. Rising after 1:00 am in early September, it rises slightly earlier each night and is up by midnight in November, climbing high to the south by dawn. Look for the Moon near Mars on the mornings of September 13 and October 12, and on the evening of November 8.



Jupiter

483.6 million miles
from the Sun

Having passed opposition in August, Jupiter rises at sunset at the beginning of September, lingering against the stars of Capricornus and dominating a part of the sky known as the "Heavenly Waters," which is populated by aquatic constellations and fairly empty of bright stars. Rising with the constellations about four minutes earlier from night to night, Jupiter hardly moves against the stars all season. Watch the Moon pass by on the evenings of September 1, 2, and 29, October 26, and November 23.



Saturn

886.7 million miles
from the Sun

The Ringed Planet vanishes into the glow of the Sun in early September and is in conjunction with the Sun on September 17. It doesn't become visible again until the end of September, peeking up in the east just before dawn. It pulls far enough away from the Sun to

be seen clustering with Mercury and Venus in early to mid-October. The Moon's pass near Saturn on September 18 is too near the Sun to be seen, but more visible are its passes on the mornings of October 15 and 16 (with Venus and Mercury) and November 12.

First to Saturn

Thirty years ago on September 1, 1979, NASA's Pioneer 11 became the first spacecraft to fly past distant Saturn. Since that time, three other spacecraft have followed it—Voyagers 1 and 2, which both continued out of the solar system, and Cassini, which has been orbiting the ringed planet since 2004.

	Sunrise	Local Noon	Sunset
September 1	6:40 am PDT	1:09 pm PDT	7:38 pm PDT
October 1	7:06 am PDT	12:59 pm PDT	6:52 pm PDT
November 1	6:35 am PST	11:53 pm PST	5:11 pm PST

Times are for San Francisco, CA, and will vary slightly for other locations.

Happy Anniversary
On November 8, 1952, the original Alexander F. Morrison Memorial Planetarium opened to the public at the California Academy of Sciences.

A New Frontier
Sputnik, the first artificial satellite of Earth, was launched from the Soviet Union on October 4, 1957, ushering in the Space Age.

Ice on the Moon?



Since June 23, NASA's Lunar Reconnaissance Orbiter (LRO) has been circling the Moon at an altitude as low as 31 miles and imaging its surface. Launched aboard the same rocket, another NASA vehicle called LCROSS (Lunar Crater Observation and Sensing Satellite) has been gradually modifying its trajectory to a polar orbit, in preparation for an impact on the Moon's south pole in early October. Evidence from previous vehicles suggested the possibility of water at the lunar pole in the form of ice mixed with soil. With luck, LCROSS's impact may raise plumes of ice-laden debris that will be observed from both Earth and LRO. NASA planners believe that if found in abundance, water ice can be used to supply a future lunar base and even manufacture rocket fuel.

Galileo's Blunder

On September 23, 1846, the planet Neptune was discovered. Mathematical calculations had indicated that the orbit of Uranus was being affected by the gravitational influence of another, as-yet-unknown body. Credit for the discovery usually goes to Johann Galle, using calculations by Urbain Le Verrier. Though Galileo's notes show that he actually saw Neptune while observing Jupiter in 1612, he thought it was a star and so is not credited with its discovery.

Skywatcher's Guide (September - November 2009)

September 4

Full Moon located between the major stars of Aquarius the Water-Carrier and Pisces the Fishes. The Native American Choctaw tribe called it the "Mulberry Moon," the Ojibway called it the "Wild Rice Moon," and the Cherokee called it the "Month of the Nut Moon."

September 18

New Moon at 11:43 am PDT. The first visible crescent after new won't be seen from the U.S. until sunset of the 20th, marking the start of the month Shawwal in the Moon-based Islamic calendar. On the other hand, the Jewish calendar does not require actual observation of the first crescent, so new Moon dates are determined mathematically. The Jewish new year, Rosh Hashana, is celebrated on the first full day after new Moon, on the 19th.

September 22

Autumnal equinox at 2:22 pm PDT. Autumn begins in the Northern Hemisphere. In the Southern Hemisphere, it's the start of spring. The Sun rises due east and sets due west, theoretically spending equal amounts of time above and below the horizon on this day.

October 3

Full Moon. As the first full Moon after the autumnal equinox, it is also known as the "Harvest Moon." Other traditional Native American names for the full Moon of October include "Moon of the Changing Season" (Lakota Sioux), "Falling Leaves Time" (Nez Perce), and the "Turkeys Moon" (Natchez).

October 8

Peak of the variable Draconid meteor shower, although the light of a waning gibbous Moon may interfere with viewing.

October 17

New Moon at 10:32 pm PDT. The first visible crescent after new is visible from the southern United States on the evening of the 19th, marking the start of the month Dhul-Qi'dah in the Islamic calendar.

October 21

Peak of the Orionid meteor shower, which enjoys favorable viewing conditions this year, with the Moon a waxing crescent. Observers should be able to make out the typical 30-35 swift meteors per hour between midnight and dawn, often half of them leaving glowing trails. These meteors are dust particles cast off by Halley's Comet.

October 26

Spring equinox...on Mars.

November 1

End of Daylight Saving Time. Most U.S. clocks are adjusted backward one hour at 2:00 am.

November 2

Full Moon, also called the "Hunter's Moon," since it follows last month's "Harvest Moon." The Algonquin called November's full Moon the "Beaver Moon." To the Osage, it was the "Raccoon Breeding Moon," and to the Cheyenne, it was the "Freezing Moon."

November 16

New Moon. Naked-eye sighting of the first thin crescent after new marks the start of Dhul-Hijjah in the Islamic calendar. For North American observers, this sighting is expected to be possible at sunset on the 18th.

November 17

Peak of the Leonid meteor shower, an occasionally major display that puts on a spectacular storm-level show roughly every 33 years—the last time in 2002. Occurring with a new Moon, this year's shower is favored by ideal viewing conditions. Although its intensity has decreased to non-storm levels of 15-20 per hour, one never really knows what a meteor shower will do...

Q & A

Insiders Tell the Best Stories

Curiosity, discovery, and creativity fuel excitement every day in the Academy. That's one reason the Academy receives such enthusiastic support from educational philanthropists Tad Taube and Susan Koret, and technology pioneer Judy Estrin.



Through his involvement in the Koret and Taube Foundations, Tad Taube joins Koret Board Chair Susan Koret in funding a wide array of community causes in the Bay Area and abroad. What puts the California Academy of Sciences high on their priority list? A past, present, and future commitment to education and research.

Q: Both the Taube and Koret Foundations are longtime supporters of educational reform, and the Koret Foundation has funded the Careers in Science Intern Program for many years. How does the new Academy fit with your interests in civic engagement and institutions?

A: More than 300 Bay Area community organizations receive our support, and we are particularly committed to educational causes. We have become involved with a lot of educational institutions. As a major teaching and learning experience for anyone who enters its doors, we consider both the Academy and its programs very important players in educational outreach.

Q: The Academy's new Koret-Taube Education Center was named in honor of your significant support of the recent capital campaign. What is your favorite feature of the Center?

A: I most appreciate the Center's classes, workshops, and symposia that help teachers better integrate science into curricula. A Center could just be a room with lots of books and equipment, but what really matters at the Academy is putting all that into motion for teachers and their students.

Q: The Center is a collaborative effort between the two foundations. What were your goals in supporting the Academy, and how did you come to work together on this project?

A: The two foundations collaborate when we share a similar view about an opportunity or when funding requirements are very large. Ultimately, the most important element is leveraging impact. Because the Academy is such an important community resource, so consistent with our mission, there was a lot of enthusiasm among our board members to support it. Susan Koret has been a vocal proponent of the vision of her late husband. We really learned about educational reform together—"on the job training," if you will.

Q: Do you have any favorite personal experiences with the Academy?

A: My childhood years were spent in Poland, but I've experienced the Academy through three generations of my own children, now aged 6 through 52. Visiting Steinhart Aquarium was a popular family pastime, and I remember celebrating several birthdays in the interim facility on Howard Street. The Academy provides such a wonderful venue for family learning.

To learn more about giving opportunities, call (415) 379-5410 or visit www.calacademy.org/give.



Judy Estrin
CEO, JLABS, LLC

You might call Judy Estrin an expert on creativity. A pioneer in launching and growing the computer networking industry, she helped develop the software that would create the Internet and World Wide Web. She's been honored three times on *Fortune Magazine's* list of the 50 most powerful women in American business and is the author of *Closing the Innovation Gap: Reigniting the Spark of Creativity in a Global Economy*.

What is the relationship between science and creativity?

Some people think that science and creativity are mutually exclusive, with science being logical and data-driven while creativity is associated with the arts. But questioning, curiosity, and exploration are key elements of scientific and technological discovery as well. That's creativity.

You've been a generous annual supporter of the Academy's Collectors' Society. What excites you about the Academy?

As I was finishing my book, I read an article about the groundbreaking of the new Academy. I was so inspired by the green architecture, the notion of having researchers working together and an environment where people could get excited about the fun and awe of science.

What is your favorite feature of the Academy, and why?

It would have to be the penguins! I love how Academy staff designed a special wetsuit for the oldest penguin and how we can go on the web and watch them through a live feed.

Through personal interaction with Academy scientists, educators, and partners, opportunities to engage with the natural world abound.

1 The Academy partnered with the Ocean One Foundation at Ocean Beach for the annual World Oceans Day beach cleanup.

2 Anne Mallon, Acadian Bay resident, and her son, Luke, participate in a beach cleanup activity at Ocean One.

3 Laura Jensen, winner of the Academy's VIP to the Sea Sweepstakes, joins the Super Factor at Ocean One.

4 On July 2, Nightlife artists were invited to perform at a show featuring live music with interactive visual in the performance.

5 Platinum Behind the Scenes tour participants interact with an ornithologist in the Reservoir.

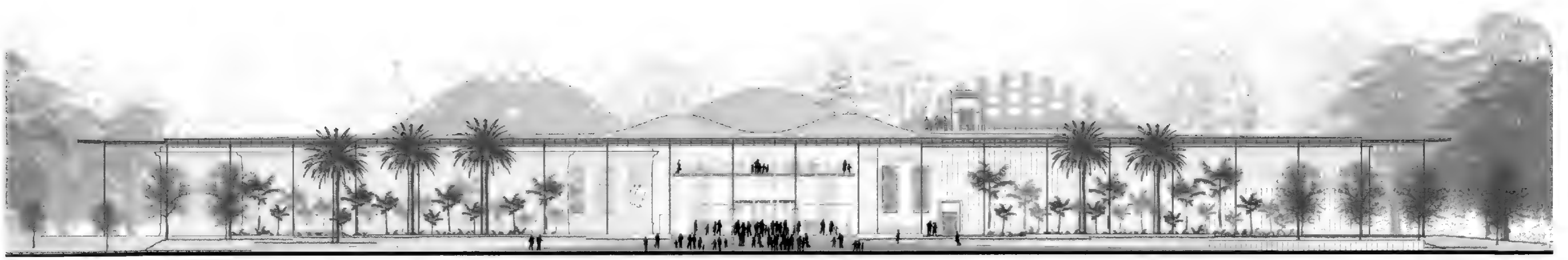
6 Members of the Inaugural Teacher Institute in Science and Sustainability (ITSS) participate in a "Fragile Coral Reef" workshop.

Upcoming Fall Donor Events
Call (415) 379-5400 for details.

Second Annual Big Bang Gala
Friday, September 25, 6:00 pm - 1:00 am
Live! The Academy will close to the public at 1:00 pm.

Film Screening for Academy Guild
Monday, October 5, 6:00 - 8:00 pm





Building a Legacy

The new California Academy of Sciences has now been open for nearly a year. As it approaches this milestone, the Academy gratefully acknowledges the following donors for their contributions to the Campaign for the New Academy.

MAJOR DONORS

(contributions of \$50,000+ received August 15, 2008 – June 30, 2009)

Scott Cook and Signe Ostby; Jean and James Douglas; Ernst & Young; Tully and Elise Friedman; Louise and Mark Gaumond; John and Marcia Goldman Foundation; Kreitzberg Family Foundation; Bill and Jean Lane; Barbara and David Roux; The Niels Schultz Family; Nancy and Sidney Unobskey; Robin and Marsha Williams and Family

COMMUNITY DONORS

(contributions of \$100 - \$49,999 received through June 30, 2009)

\$25,000 - \$49,999

Anonymous; Barbara and Marcus Aaron; Linda and Andrew Ach; Marian and Hans Baldauf; Richard C. Barker; Ann Fay Barry; Brewster West Foundation; Barbara and Roger Brown; Josephine Brownback; Buckley Family; Edwin Callan; The Charnas Family; Nancy and Edward Conner; S. H. Cowell Foundation; Joan and Allen Dekelboun; Isabelle Z. Dokouzian; Lenora Eagar Davis; Vicki and Jeff Edwards; In memory of Gustav Eisen; Charlotte and David Epstein; Jacqueline and Christian Erdman; Kay Wu, Andrew, Hannah, and Charlotte Ferguson; Astrid S. and James C. Flood; Thomas and Eva Fong Foundation; Dianne and Carlo Fowler; Sidney E. Frank Foundation; Ginn Family Foundation; Michele and Richard Goss, II; The Michael Haas Family; The Hammarkjold Family; Charlene Harvey; Rosemary B. Hewlett; Hitz Foundation; The Hudson/Gibson Family; Beverly and George James; In memory of Fritz Jewett; Katharine Hotchkis Johnson; Marci Glazer and Jonathan Kaplan; Marian Kobayashi; Lucy Hume Koukopoulos and Nicholas Koukopoulos; Jeanne and William Landreth; Juana Schurman and Tony Ligamari; Sandra and Ronald Linder; Eve and Harvey Masonek; Leigh and Bill Matthes; Maura and Robert Morey; Paula and John Murphy; Diane Ososke; The Parish Family; Virginia Patterson; Janet and Norman Pease; Robert and Janie Rempel; Elizabeth and Kurt Rieke; Rockridge Foundation; Richard H. Salz; Warren and Katharine Schlinger Foundation; Michael and Susan Schwartz; Jane, John, Jack, and Holly Siegel; Dorothy and Dean Skanderup; Kate and Ted Smith; Clare Springs; Edith and Joseph Tobin; Toshiko and Larry Toji; Helen von Ammon; Beth and James Wintersteen

\$10,000 - \$24,999

Anonymous; Anne and Gregory Avis; Pamela and Larry Baer; Lorraine Barry; Steven, Michelle, and Olivia Block; Roberta and Roy Borgonovo; Nancy Spero and Norman Brand; Flo and John Bryan; The Capital Group; Eliza and Dean Cash; Simone and Tench Coxe; Theodore and LaVaughn Craig; Fred J. Dal Broi; Chris, Robin, Raphaela, Viva, Marco, and Gisella Donohoe; Richard and Sherry Dumke Charitable Foundation; Susan H. Euphrat; In memory of Georgiana Patty Faggioli; Holly and James Farrell; The Bettye Poetz Ferguson Foundation; Wilma and William Follette; Alison Fuller; Laura and John Gamble; The Family of Curtis and Christine Gardner; Robert and Colleen Grady; Nan and Steven Grand-Jean; Charles E. Halfmann and G. Robert Yee; Sally and Bill Hambrecht; Susan and David Hodges; Fumiko and David Hoeft; Dr. and Mrs. R. W. Hoellwarth; Irene and Oliver Holmes; Elinor Howenstine; E. Richard Jones Family Foundation; Stanley H. Judd; Mimi and Dan Kingsley Family; Robert Kirby; Joann Franklin-Knox and Maurice Knox; Thomas Lippman; Jane Bielke-Loll and John Loll; Adrienne Zihlman and Jerold Lowenstein; Martha Hales and James McKerrow; McKesson Foundation, Inc.; Kathryn McNeil; Alexander Mehran; Drs. Craig and Natalie Miller; John Nelson; Alan and Virginia Pabst; Partech International; Regina Phelps; Mary and Andrew Pilara; Henry I. Prien Foundation; Genevieve Prlain; The Ramsay Family; Barbara and Richard Rosenberg; Sally and Toby Rosenblatt; Dara and Andrew Rosenfeld; Pamela Adler Routh; Jaclyn Jacobs Rusch; Raymond and Benjamin Ryan; Fidela and Ted Schneider; Ruth and Donald H. Seiler; Mitchell Shapson and Amy Eskin; Barbara and John Shell; Lucretia and John Sias; Maureen and Craig Sullivan; Phyllis and Ted Swindells; Elizabeth Scofield and James Tanenbaum; Katharine S. and Morley Thompson; Maryett and Robert Thompson; Catherine and Ned Topham; URS Corporation; John and Terry Votruba; Marvalee and David Wake; Marilyn Yolles Waldman and Murry Waldman; David Davies and John Weeden; Lynn and Peter Wendell; Barry Lawson Williams; Mary and Michael Wolfe; Margaret and Martin Zankel; Zicarelli Foundation

\$5,000 - \$9,999

Anonymous; Nancy and Douglas Abbey; Gayle Anderson; Jeffrey and Julie Arnold; Ayupan and Rembulat Families; Malou Babilonia; Mary Anne Nyburg Baker and G. Leonard Baker, Jr.; Janny and Paul Beale; Leslie Larson and Michael A. Bennett; Daphne and Robert Bransten; The V. Ray and Myrtle H. Britton Charitable Trust; Su-Moon Paik and Bob Brown; Carroll and Peter Cahill; Elizabeth Carroll; In memory of Hector and Grayce Ceschi; Mayme Chinn; Kate and David Chung; Jean and William Coblentz; Elizabeth Colton; In honor of Randi Fisher from the Crane Family; Dr. and Mrs. Antonio Cucalon, Jr.; Natalie and Albert Davis; In memory of Ourania and Christos Desalernos, Sr.; Lois Elliott Desalernos and Dr. George Desalernos; Anne and Jerry Down; Joyce Dubay; In memory of Ima and Warren D. Elliott; Chris and Bob Feibusch; Katherine Hanson and Scott Ferguson; Laurie Poston and Brian Ferrall; Fitzgerald & Graves; The Foothills Foundation;

Janet and Ron Giannini; Jeannie Graham-Gilliat; Shand and William Green; The Griep Family; Eileen and Paul Growald; Marsha and Ralph Guggenheim; Amber, Emily, and Jonathan Hallet; Halper Family; Harold and Reta Haynes Family Foundation; Vivienne Hock; Ann and John Iannuccillo; Diane Midori Ichiyasu; The Kakkis Family; Barbara and David Kimport; Kathleen Bole and Paul Klingenstein; Eileen and Jude Laspa; Glen and Gail Lau; Lamar Leland; Carol and Emmett MacCorkle; Lynne and Ernest Maggioncalda; Natalie Magruder; Laura, Segundo, Wesley, Kenneth, Greg, and Meredith Mateo; Tracy and Andrew Matthes; Gail Enfiagian and William May; Mary and Walter McCullough; Barbara and Robert Mendle; Mr. and Mrs. Joseph A. Moore; Morgan Stanley; Jackie and Howard Nemerovski; Heather and David Olitsky; Jan and Howard Oringer; Danielle and Libby Parker; Gary Demyen and Les Partridge; Tom and Kristi Patterson; Irene and Daniel Riley; Rosendin Electric, Inc. Contractors; Jacob Denman Ross; Miranda Heller and Mark Salkind; John Sanger; SEED Fund of the Studio for Urban Projects; Mary Jo and Arthur Shartsis; Mrs. Eugene A. Shurtleff; Paul Silva; Margaret and Erik Smith; Randy Taylor; Carol Tolan; Lindsey Walker; Anne and Roger Walther; Carol Boggs and Ward Watt; Sebastian Heyneman Wells; Gloria Wesenberg; Arlyn and Kurt Wilson; David and Charlotte Winton; Virginia Troyer and David Zicarelli

\$2,500 - \$4,999

Anonymous; Keren and Robert Abra; Academy Staff; Academy Staff Alumni; Ackerhalt Family Gift Trust; Paul and Rebecca Aherne; In honor of Alison Beth Altman; In honor of Jonathan Frederick Altman; Theresa, William, and August Andrews; Whitney and Phil Arnautou; The Arrick Family; Michelle McClellan and John Attardi; Richard Bachenheimer; Natalie Graff-Baker and Les Baker; Nancy A. Baker, Mike Levine, and Danielle Levine; Charna Ball and Emanuel Ball; The Robert Ball Family; James R. and Jane M. Bancroft; Raymond and Alkmene Bandar; Jill, Jerry, Andrew, and Stuart Barakos; Joseph and Clara Barbaccia; Melissa and Patrick Barber; Marie Schoppe Bartee; Alvin H. Baum, Jr.; Michael J. Bennett; Riva and David Berelson; Robin and James Beres; Lynn Feintech and Tony Bernhardt; Loraine and Robert Berry; JoAnn and Jack Bertges; Charlotte, Eloise, Anne, and Christophe Bertrand; Sandra and Paul Bessieres; Jacqui and Mark Biglieri/The Sassus-Martin Kids; Kathleen Wydler and Dean Blacketter; Karen and Jeffrey Block; Leslie, Katie, and Scott Bloom; Dyan Triffo and Douglas Boake; Alison and William Boeckmann; Mary Bollman; Barbara and John Boyle; The Madeline B. and Albert J. Brandi Family; Ryan, Julian, and Evan Brill; Kittie and Eugene Brodsky; Kelly and Samuel Bronfman; Bud and Nancy Bronstein; Gail and Andrew Brown; Curtis and Carolyn Brown; Claire and Edwin Brown; Victoire Reynal Brown and Owsley Brown; Holly and Tom Brown; Ava Jean Brunbaum; Elaine and Whit Budge Fund; The Bulkley Family; The Bunyaviroch Family; The Burnett Family; Carrie and Jim Burroughs; Constanzo Buzzelli; Carrie Elisa Byles; Cornelia and Alexander Calhoun; Virginia Carder; Ingrid and George Carney; Blake, Colby, and Dillon Case; Heidi and Caley Castelein; Julie Chaiken, Glowe and David Chang; Amy and Louis Chan;

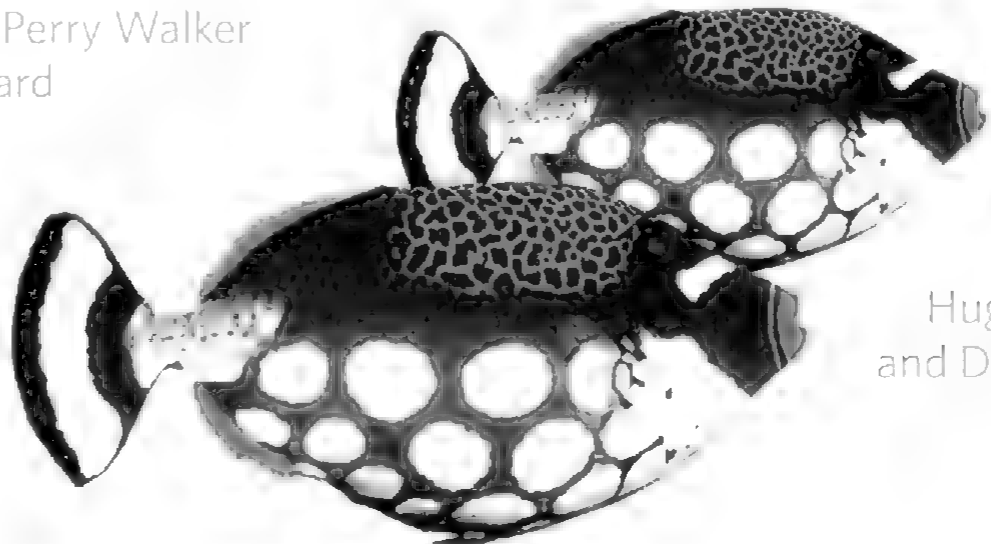
Hella and Melvin Cheitlin; Vivian Fu, Hank Chen, Zoe and Ariel Fu-Chen; Angeli and George Cheng; Carol Lem, Wally and Shauna Chin; Amanda Chiuchiarelli; Claudio Chiuchiarelli; Cora Chiuchiarelli; Jacqueline Chiuchiarelli; Jennifer Chiuchiarelli; Joannette Chiuchiarelli; Nicky Chiuchiarelli; Kathleen and Eugene Clahan; In honor of Raymond F. Clark from Ann, Matt, and Steve Clark; Margery, Jen, Mariel, Juli, Will, and Ray S. Clark ; Louise Clark; Clauss-Ross-Sand Family; Dr. and Mrs. William A. Clemens; Kristi and David Clover; Joanne and Joseph Coffin; Erin and Francis Collins; Carol Gray Costigan; The Coyle Family; Dodie and Peter Crawford; Abby and Will Csaplar; Edie and Bill Dagley; In memory of Jennie Mae Daily; Delphine and Allen Damon; Michele Dana; The Patricia and Angelos Dassios Family; Claire and James Davis; The Juliet and Andre de Baubigny Family; Patricia and David Dexter; Paul Dancer DiLiberto; The Dilullo Family; Betty and Mervyn Dowd, Jr.; Mr. and Mrs. William H. Draper III; Guadalupe and Erik Dryburgh; Bruce Dugstad; In honor of Rudolf H. and Loretta V. Dunec; Susan McComb and J.D. Durst; Marina and Philip Early; Gala and Alejandro Bravo-Echeverria; Delia F. Ehrlich; John, Heather, Dylan, Casey, and Brady Elder; Enlight Foundation; Theo and Tate Fairchild-Coppoletti; Jean and Gregory Farrington; Katy Bernheim and Ted Fehlhaber; Robert M. Ferencz, PhD and Rebecca A. Stanwyck; Jane and Douglas Ferguson; Marsha Cohen and Robert Feyer; Jake Figone; Jordan Figone; In memory of Libero Filippo; In memory of Dolores Finke; Denise B. Fitch; Victoria and David Fleishhacker; Katherine Moser and David Foster; Mr. and Mrs. T. Jack Foster, Jr.; Sarah and Robert Freedman; Chara Schreyer and Gordon Freund; Martin D. Fried and Linda D. Hom; Mallory, Max, and Maudie Frye; Karen Fu; Sally Towle Gallagher and J. Michael Gallagher; Laura and Barry Galvin; Natalia, Lorenzo, Rachel, and Juan Garcia; Katya George; Thomas B. and Pamela G. Gerfen; Julia Vetromile and David Goldstein; Karen and Joshua Goodman; Olga Perkovic and David M. Goodstein; Kristin and Peter Gordon; The Govindarao Family; Donald Gregory; Deborah and Jeffrey Griffith; Ethan and Zachary Grigsby; The William E. Griscom Family; Edward H. Grubb; Anne and Robert Gunderson; Anne Krantz and Mark Gunther; Phyllis and John Gurney; Johnnie and John Hafernik; Betty and Joe Hall; Marie and Douglas Hamilton; Virginia Hamnerness; In memory of Gim Wang and Jay A. Harvey; Arthur W. Haseltine; Sumner Hearth and James Hearth; Louis Heinrich; Amanda Hamilton and Tim Hemmeter; Susan and Douglas Hendrickson; The Hennessy Family; Mary, Stephen, William, and John Hibbard; Helen Hilton Raiser; Jeanne Hittell; Gayle and Wendy Hoffman; Vera C. Hendry Foundation; William and Mary Ann Hoisington; Janice and Maurice Holloway; In honor of Lauritz E. Holm; Kathy and Jimmy Hormel; Linda and Larry Howell; The Hurd Family; Bruce Hyman and Simone Quarré; Sarah and Jordan Hymowitz/ Philadelphia Financial; Suzanne Irwin-Wells; Beth and William Jackson; Pauline Kerber and John Jennings; Jensen Corporation Landscape Contractors; Jensen Landscape Services; Herbert Jeong and Paul Deckenbach; Colleen Prince and Jeffrey Judd; Deborah and Scott Kay; Terry Kee; The Kennedy Family; Marguerite and Zachary Kenner; Kikue and William Kiyasu; Jack and Matt Klein; Megan and Stewart Koch; The Kocks Family; Neil Kori; Raymonde and Douglas Kramlich; June and Gene Kronberg/Jacobs Family; Byron Kuth and Elizabeth Ranieri; Sue and Roger Lang; Hana and Anthony Larkin; Karen Larsen; In memory of John W. Larson; Randall Laroche and David Laudon; Angela and Jerry Lee; Leo M. Lee, Jeanne Chun, and Madison G. Lee; Richard and Sharonjean Leeds; The Leeman Family; Lehmann 3 Generations: Fred, Edgar, and Michal; Frank and Virginia Lew; John and Elizabeth Lewis; In memory of Jean and Carl Lieber; Karen Earle-Lim, Wendell Lim and Family; Jack and Ione Lollar; Patricia Munter and Jeff Loomans; Molley and Richard Lowry; Jennie Watson and Paul Lucchesi; Carrie and Ronald Ludwig; Leslie Luttgens; Sherry Morse and John Maccabee and Family; Kirsten Walker and Ewan Macdonald; Tamara and Thomas Mack; The Madar Family; Dorothy McCallum-Magruder; Sebastian Diskerud Malin; Benjamin Diskerud Malin;

Crisula Markoulis; Josephine Markovich; Sharon and Michael Marron; Carol Mayer Marshall; Candyce Martin; Jacqueline and John Martin; Ann and Andy Mathieson; Lisille and Henry Matheson; Lucy and Hudson Matz; Lucia Matzger; Leigh and Zachary Maurus; Dr. Karl P. Mauzey; D.N. Maytum Family; Siobhan and Sean Michael McCarthy; Karin and Gregory McClune; Benita McConnell; Pam and John McCosker; Janet Shohara and Michael McCutcheon; Adam, Valerie, Madeleine, and Eleanor McGinty; In memory of Jack McGregor; Myung Sook McIntyre and Robert McIntyre; Sara, Thomas, and Kathryn McKinley; George and Joanne McKray; Denny and Ruth McLeod; Teresa and Mark Medearis; In memory of Allen E. Meier, Jr.; Louise and Terrence Merkel; Dr. and Mrs. Stacy Mettier; Jancy Rickman and William Michaely; Anicka Mihal.k; David M. Minus Family; Dr. Marta Margeta and Dr. Igor Mitrovic; R. Mollberg Family Sua Sponte; In honor of George G. Montgomery, Jr.; Scott Chan and Vicki Moore; Patti, Dennis, Grace, and Aidan Mulqueeney; In honor of Osamu, Rinji, and Kay Murota; Martina and Tom Murphy; Bernard and Gail Nebenzahl in honor of Terry Gosliner; NetApp; Sharon Yuki and Bruce Neuburger; Feliza Agnes Neves; In memory of Della Claire Hale Newitt; Jeanne Newman; Ellen and Walter Newman; Nancy and William Newmeyer; Anurag Nigam; Nora Norden; Kelley and Sean Ogami; Linda and Russel Ogden; Susan and Robert Ohrenschall; Cynthia Grant and Bruce Olitzky; Carol Brost and Thomas Opdycke; Barbara O'Shea Moller; James and Marilyn O'Toole; Edmund W. Ow; The Paras Family; Laurie Schwerin and Jose Paredes; Abhay and Kay Parekh; Anne, Michael, Chelsea, and Meredith Parish; James Frederick Parkin; Kathryn Alexis Parkin; Maya, Vivek, Krutika, and Raj Patel; Shih-Wei Peng and Family; Pentagonam Design; Alexander McBirney Perrelli; Jonathan McBirney Perrelli; The John and Tori Peterson Family; Linda and Edward Plant; Patric and Mary Powell; In memory of Estelita J. Que; Mr. and Mrs. Raymond G. Quesada and Family; Questar Foundation; Karin and Bill Rabin; Rana Creek; In memory of Shirley Anne Range; Patricia and Charles Raven; Laura and John Rende; John Capizzi and Glenn Riddell; Elizabeth Ringrose; James Ritchie; In memory of Marc L. Roach; Sheri and Paul Robbins and Family; C. David Robinson and Family; Danielle and Noah Rodriguez; Diana and James Rogers; Rhiannon Roopnarine, Rebecca and Jessica Leung; Susan Cluff and Neil Rudolph; Wendy Palmer and Richard Ruh; Nancy J. Russell; Mike, Judy, and Matthew Sakanari-Moser; Dr. and Mrs. David J. Sanchez, Jr.; Laura Brugger and Ross Sappenfield; Ella Scanga and Family; Michael Scharfenstein; Dianne and Alexander Schilling; Lani and Buzz Schulte; The Schultz Foundation; Patricia K. Scott; Harold Segelstad; Rick and Blair Shane; Peter and Mardine Sibley Family; In honor of Dr. Al Jonsen, Sierra Health Foundation; Margaret and Jon Sigurdson; Jai and Sher Singh; In Memory of Patricia Rainford Morales; Eleanor R. Siperstein; John R. Smith; Marjorie A. Smith; Kim and Michael Solomon; Craig and Elizabeth Sparks; Jeannie Spingola; Thoralee Crawford Squair; In honor of James Stack; Frank Stein and Paul S. May; Bridget Baskett-Stone and Steven Stone; Jaimie Sanford and Ted Storey; Mary Strebl; Monica Salusky and John K. Sutherland; Kyle Taylor; Tracy Taylor Grubbs and Richard Taylor; Sophia Taylor; Nan Borreson and Fred W. Terman; In memory of Tora and Hachiro Toji; In honor of Joyce and Jennifer Toji-Fong; László Tökés; Tucker, Cortland, and Whitaker Tollmann; Mrs. Albert Towle; Marjorie and Barry Traub; In memory of Stanley and Jean Tsuchiya; Elaine Yokoyama and Toshio Tsuda; In memory of Sarah Tucker; Susan and David Tunnell; Margi Sullivan and William Van Dyk, DDS; Leon Van Steen; Patricia Post and Martin Vanderlaan; Stella Sherwood Vosburg Family; Vartan and Lorraine Voskanian; Dorothy and Paul Wachter; Charles and Perry Walker Freeman; Marilyn and Edward Wallis; KK and Bob Wang; Diane and William Wara; May Yong and Scott Ward; Dorothy E. and Fred C. Weigel; Wallace

and Eve Wertsch; The Whitcher Family; The Wilkerson Family; Nancy O'Donnell Willis and Charlie Willis; Virginia and Prentiss Willson and Paige Witte; Tijn Fah Tijn and John R. Wilson ; Anna Quan and Dick Wing Wong Family; Max Rickert-Wong, Lorange Wong, and John Wong; Yuk-Ching and Paul Ying-Si Wong, and David Wong; Margaret and Angus Wurtele; Dr. Yung-Tsai Yen and Ms. Ho-Tzu Chuang Yen; Jane and Edwin Yuen; Diane and Howard Zack; Flora Zagorites and Family; Lena and Gabe Zentall; Hilary and James Zucherman

\$1,000 - \$2,499

Mrs. Brent Abel; Howard Allen; Mary Beth and Frank Almeda; Alissa Arp; Martha and David Arscott; Michelle and Lee Banks; Nancy Baron; Johanna and Thomas Baruch; Nancy Bates; Elizabeth Salzer and Richard Baumgartner; Ann and Irwin Bear; Barbara and Richard Bechelli; Andrew Bellotti; Maria and Patrick Bennett; Daniel Beswick; Pamela Westfall Bochte and Bruce Bochte; Cecile and Jeff Bodington; Beverley Bolt; Amy Hockman and Brian Bone; Marilyn and Nick Bowles; Jean and Don Brandenburger; Christina Shih and Thomas Bria; Robyn and Victor Brito; Cabot Brown; Claudine Brown; Henry Brown; Elizabeth and Howard Brown; Robert Brown; Alice and Thomas Caddow; Julia Sze and Robert Cameron; Ruthild and Lester Candee; Gertrude and Vernon Capps; Ronald Casassa; In memory of Grayce Dolores Ceschi; Nina Jablonski and George Chaplin; Valerie and Devron Char; William Clark; Sue and Charles Cobb; Robyn and David Cole; Geraldine and Jerry Cole; Judy and Charles Cooper; Sandra and Norman Coplon; Joyce and Robert Corrigan; Patricia and Joseph Costello; Beatrice Coxhead; Barbara and Michael Cronin; Copley Crosby; Paula and Chandler Dawson; Shirley Dawson; Mary Delanty Brown; Martin and Starsky Dias; Grace Chang and James Dignan; Bonnie Fisher and Boris Dramov; Marilyn and Les Duman; Mary and David Eklund; Helen and Richard Elkus; Anna Zara and Robert English; Claudia and Ray Enos; Elizabeth and Jeffrey Faraday; Farese Family Foundation; Eve Schooler and Robert Felderman; Pamela and Alan Fine; Lisa Weston and Nick Fleming; Mary Holstege and Daniel Ford; Muriel French; Louisiana and Richard Gale; Kay and Ken Gobalet; Kendra and David Good; Amy and Jim Gordon; Carol and Arthur Graham; Maurice Gregg; Mary and Daniel Gregory; Katherine and James Hansen; Kira O'Day Heller and Ephraim Heller; Geraldine and John Holt; Annette Floystруп and Ben Hong; Raleigh Hughes; Justine Hume; Virginia Ingham; Jacqueline and Donald Jacobberger; Betty and Carl Jensen; Myrtle Johnson; Marti Baroody and Michael Joseph; Beverly and David Kavanaugh; Josephine Kennedy; Doris and Roger Ketcham; Terry and Robert Keyes; Elaine Koehn; Philip Lally; Alice and Jack Leibman; Phyllis and Harold Levy; Pat and Anthony Ley; Barbara and Paul Licht; Carol and Al Lilleberg; Paul Livingston; Mikkell Louie; Eroeda Luck; Patsy and James Ludwig; Holland and Kevin Lynch; Ewan Macdonald; Richard Maddox; DeAda and Henry Mally; Snowden and Malcolm Manson; Patricia and Frank Marshall; Marlene and Laurence Marton; Martin Mass; Vanessa and Christopher McGuire; Caryl Mclvor; Jennifer Bennett and Brandon McLaughlin; Caryl and Peter Mezey; Mary Blake and Bart Miller; Adrienne and Bruce Mitchell; Paul Moslander; Eric Milliren and Steven Muchnick; Patricia Mullin; Glee and Charles Murphy; Nancy and John Neerhout; Mary Negi; Kristin and Peter Negulescu; Delores and Walter Nelson; Jane Newhall; Nam Nguyen; Patricia and Norman Nicolay; Phyllis Norris; Gloria Kemp and John Odell; Maureen and Patrick O'Donnell; Anne and Standish O'Grady; Susan and Richard Olness; Kate and Blair Parkin; Vicki Seiler Pate and Bruce Pate; Roslyn and Lisle Payne; Vicki Buchsbaum Pearse and John Pearse; Dorothy Pettitt; Claudia and Stephen Pieraldi; Harriet Quarré; Jenelle and Spencer Rank; Kathryn Rouine-Rapp and Joseph Rapp; The Rechtschaffen Family; Linda and John Reichel; Barbara and David Rentz; Patricia and Hugh Reynolds; James Rhemer; Mary and David Riese; Anmarie Roache; Beth and



Stephen Robie; Jane Roos; Suzanne Rosates; Claudia Ross; Benegene and Howard Rudiger; Kathleen and Kenneth Ryan; Virginia and Philip Scarborough; Marianna and Edward Schaefer; Katherine Schmidt; Andrea Schnitzer; Jean Schulz; Michelle Schwartz; Dore Selix-Gabby; Kathryn Scott and Melanie Sherk; Colleen and John Silcox; Donald Smart; Hedda and Tom Smithson; Nancy Coburn and John Snyder; Sandy Somerville; Debra Altshul-Stark and Brian Stark; Joan Steinberg; Christina B. Stephens; Katharine Stewart; Teresa Kelly-Stewart and Milton Stewart; Kathleen Wesner and Daniel Sullivan; Violet Schoning Taaffe; Phyllis and Max Tnelen; Betty and Dexter Tight; Tjeerd van Andel; Edith and Geeral Vermeij; Albert Wald; John Waldum; Sally Ward; Channell and Jan Wasson; Laura and William Waste; Delcey and Harlan Watkins; Olive and Richard Waugh; Lynda Miller and Dean Weldon; Ann Wells; Virginia and Richard Welsh; Roy Miller and Christopher West; Eva and Roger Westberg; Ann and Lawrence Wheat; Joan Wheelwright; Lois Kelley and James White; M.J. Whitehouse; Nancy Yoneyama and Roy Wilson; Nancy Wong; Laura and Mark Yockey

\$500 - \$999

Anonymous; Kurt Abrahamson; Margaret Parker and Glenn Addleman; AIA San Francisco; Marlene and John Arnold; Lucille and Frank Asaro; Robin Azevedo; Bernard Barron; Mary Ann and Leanord Benson; Chris Bernau; Susan and Robert Bernheim; Susan and Frederick Bianucci; Cynthia and Frank Biasca; Diane and Michael Bigler; Alicia Berberich and Gunnar Bjorklund; Marilyn and Dix Boring; Jan and Joe Brennan; Divo and David Brevik; Wendy Buchen; Lucile and Bill Cain; Joan Shin and Jeffry Cardneau; Suzan and Richard Carlston; Margaret Casey; Cecile Ehrmann and Rolando Castro; Cynthia and William Cawley; Patsy and Lowell Chamberlain; Daniel Clifford; Raymond Connors; William Conrad; Susan and Gary Conway; Carla and Paul Cooper; Peter Cornyn; Linda and Giacomo Corrado; Holly Costa; Sharon and Stephen Crespi; Sue Simon and James Cribb; Daniel and Carrie Davis; Isabella Davis; Anita and Richard Davis; Patricia and Douglas Donaldson; Margaret Dorfman; Kathy and Peter Drake; Jeanette and Peter Dunckel; Elizabeth Enemark; June England; Lauri and Steven Falabella; Carol and John Field; Julie and Gregory Flynn; Celeste Ford; Jeanette and Bob Fritzky; Susan and John Galbraith; Barbara and Jon Galehouse; Rose Gehm; Pamela Cook and Paul Gietzel; Emily and Michael Goldberg; Sara Beckman and Charles Gow; Laura Winfrey and Douglas Grigsby; Charlotte Griswold; Victoria Augustus and Linda Guitron; Jean Guthrie and Ian Hadley; Michael Hafferty; Mary Eloise Halperin; Lillian and Donald Hananan; Betsy and John Harker; Dana and Tom Hayse; Deborah and Robert Hector; Derry Henderson; Gretchen Knoell and Mark Higbie; Nancy and John Holleman; Donna Hubbard and Glenn Holsclaw; Eva Cohen and Steven Holtzman; Elizabeth Hook; Jacqueline and John Hullar; LaVonne Jacobsen; Heather and Sanjay Jain; Margaret and Reese Jones; Kathy Juarez; Linda and Kent Kaiser; Tin-Na Kan Karnavy; Gwendolyn Holcombe and Carl Kawaja; Beryl Kay; Alice Keenan; Susan and Walter Keenan; Hester and Robert Kenneth; Sylvia Kershaw; Therese Babineau and Patrick Kirch; Lynn Kirshbaum; Ann Cummings and William Kissinger; Katherine and William Koroholz; Marla Miller and David Kremer; Jill Ross-Kuntz and Irwin Kuntz; Sally and Thomas Lambert; Sean Dowdall and David Landis; Ellen and William Lange; Jean Langenheim; Joe Larson; Barbara Swary and Stewart Lauterbach; Betty and Ross Lawler; Sarah Gore Lee; Madalin and Jim Levie; Joan and Evan Lewis; Louise and William Lidicker; Caroline and Harry Lieberman; Claire and Edward Liska; Angela Little; Katherine and Chelcie Liu; Patricia Day-Lollini and Lance Lollini; Sally and Frank Lopez; Bonnie and Jeff Magill; Anne and John Mahoney; Mrs. Brent Malarkey; Mary and Buck Marcussen; Colleen and Rob Marsh; Charlotte and John McConkie; Judy and Donald McCubbin; Elizabeth Hal and Elizabeth Ann McDonald; Jennifer and Jim Mills; Sandra and Stephen Moore; Janice Moy; Helen and Fraser Muirhead; Sonya and Noel Murphy; Franchesca and David Napier; Julie Nishihara;

Margaret O'Connor; Chelsie and Sandy Olney; Kathleen O'Sullivan; Jean and James Palmer; Nancy and Fletcher Payne; Jane and Eric Pedley; Perforce Foundation; Warren Perry; Ann and David Peterson; Cynthia Metcalfe and John Plevyak; Marcia and Robert Popper; Sue Porter; Judith Prokupek; Harriet Levy and Philip Raful; Kathy and Jahan Raissi; Danielle Reischung; Susan and Thomas Reinhart; Dianna Rice; Elizabeth Rieger; Anne and Richard Riley; Elizabeth and William Robbins; Joan Robertson; Richard Rockwell; Gina Sanfilippo and Frederick Roeber; Paula Roloff; Catherine Rossi-Roos and Mark Roos; Doreen and Pat Ryan; Roxane and Sande Schlumberger; Velma and Michael Schnoll; Lesley and James Schroder; Nancy Ramsey and Russell Schweickart; Stacey and Anderson Scott; Deborah and Harvey Shein; Carol and Stanley Smith; Sharon and James Soong; Lorna and Gordon Steel; Ann and Victor Steppan; Susan and Richard Stern; Kate Campbell-Taylor and Willard Taylor; Britt and Stephen Thal; Lloyd Thompson; Carol Mimura and Jeremy Thorner; Jennifer and Ted Tobiason; Tricia and Kuo Tong; Mary Sue and Robert Trosper; Louann Tung; Jane and Allan Unger; Cecile and Harold Weaver; Maria and Joshua Weaver; Sarah Ferris and Christy Webster; Joan and Dale Weideman; Lynn and Bart Weitzenberg; Patricia Welsh; Anne and Putney Westerfield; Sana and Joseph Wolden; Mary and Belton Wolf; Roberta Wright; Nancy and Roy Wu; Thomas Zach; Cheryl and Richard Zillman; Catherine and Richard Zimmerman

\$100 - \$499

Anonymous; Maureen Abaray; Patricia Lim and Jonathan Abilay; Sue and Kenneth Adams; Joan and William Adams; Susan L. Adamson; Victoria and Dennis Ainslie; Carol and Michael Aissa; Michele and Mark Aldrich; Esin and Julian Aldridge; Caroline and Alfred Alexander; Laurie Trombla and Bruno Alicke; Jaimi Baer and William Allan; Dorothy Allen; Jonathan B. Allen; Marcia and Matthew Allen; Judith and Louis Alley; Anne and Carlos Alvarez; Snirley Alvey; Rebecca and Andres Amaya; Amy Briggs and Rich Ames; Mark Amman; Barbara L. Anderson; Bettina Anderson; Marsha and John Anderson; Lilica and Kinsey Anderson; Jeannette and Weston Anderson; Janice Ogar and Rex Andrea; Dennis Antenore; Tamara and Nathan Apple; Robin Tracy and Art Arizaga; Roxanne and James Arnest; Jacqueline Kraft and Dennis Arnow; Mariyn Aspesi; Leah and Jason Asuncion; Catherine Atcheson; Abigail Atkins; Beth and Gordon Atkinson; Anita Axt; Celia and Alexander Ayon; Florence Baggetta; Anna Bagniewska; Anna Hernandez and Hudson Bair; Elfriede Baker; Judy Baker; Elizabeth and Mark Baker; Beatrice Baldauf; Karl Baldauf; Elizabeth Balderston; Lisa and Thomas Baldwin; Terry and David Bamberger; Barb and Mitch Barbee; Anne and Kent Barber; James Barkley; Heidi and Mat Barnes; Zelda and Clifford Barnett; Judith Barr; Bonnie and Michael Barr; Ariene and David Barraza; Joan and John Bartulovich; Barbara Bauer; Elise Bauer; Jenny Baumgartner; Robin Bayes; Elizabeth Baylis; Suzanne Marr and John Baylor; Robert Beach; Alpha Mae Beamer; Marie and Charles Beauchamp; Linda and Richard Beidleman; Francesca and Patrick Bell; Janice and William Belmont; Shirley Bendick; Linda and Jon Bendor; Julia and Allen Benello; Margaret Lynch and William Bennett; William Bennetta; Karin and Robert Benning; Roberta and Fletcher Benton; Bergeron Family; Maureen Bergson; Gail and Howard Berman; Kathi Berman; Katie and Jon Berryhill; Susan and Tracy Bertram; Joyce Wong and Thomas Beutel; Susan and Arthur Biedermann; Patricia and Michael Bigelow; Ann and Norman Bikales; Deborah and Michael Bird; Carolyn and Richard Bischof; Joan and Edward Bissell; Marilyn and Robert Bjorkquist; Kathleen Blamey; Ellen Blaufarb; Donna Haar and Daniel Bletterman; Dale Blosser; Josephine Blue; Fred and Mary Blum; Elise Bodtke; Frances and Robert Bonner; Marta and David Bookbinder; R.A. Boolootian; Claudia and Robert Borchers; Olive and John Borgsteadt; Julia and Doug Boszhardt; Joan Boyd; Carolyn and Peter Boyle; Athena and Evan Bradley; Carol Lane and Larry Bradley; Valerie and Pam Bradshaw; Martha and Thomas Bratton; Jennifer Murphy and Matthew Brauer; Nicolas Bravo;

Melissa Brammer and Chris Breaux; Ellen and Russell Breslauer; Midori Briggs; Molly and Dennis Brimhall; Nancy Lee and James Bristol; Catherine and William Brockenborough; Debra Niemann and David Brodwin; Marjorie and Richard Brody; Geoffrey Bromfield; George Brooks; Ursuline Carpetta and Jeffrey Brooks; China Brotsky; Andrew M. Brown; Eleanor Brugler; Diana Brumbaugh; Judith and Joe Brumbaugh; Sonja and John Bruno; Angelica and Nicholas Bruno; Mavis Buchholz; Mary Bulf; Andrea Clarke and JuanCarlos Buller; Joyce and Sterling Bundesen; Esteban Burchard; Charles and Barbara Bureker; Edward Burke; Jacqueline Burke; Candida Burnap; Betty Burnham; Casandra and Robert Burr; Elizabeth Burridge; Jane Burrows; Patricia and Michael Busk; Robert and Betty Bussey; Kerry Dolan and Graham Button; Colleen Bickman and Peter Buzanski; Angela and Juan Cabada; Madalena Cabrera; Helen Cahill; Susan Batchelor Calkins and Tony Calkins; Juanita and Milton Callejas; Margaret Callinan; Lorraine Calta; Beth and Ricardo Caltagirone; Sandra and Donald Campbell; Janet Campbell; Paul Capitolo; Karen and Michelangelo Capraro; Barbara and George Carazo; Lawrence Carbary; Bloum and Andre Cardenas; Lisa Rosenberg and Lennis Carlson; John Carpenter; Rod Carpenter; Elsie Carr; Montague and Rene Carr; Gwen and Daniel Carscadden; Priscilla and Peter Carson; Patricia Carter; Pinkie and Edward Carus; Kathleen and Kim Cascone; Joanne and David Castro; Jeanne Myerson and John Cate; Shirley and Arthur Cerf; Terry Cerrato; Deborah Huber and Alan Chai; Linda and Allan Chalmers; Julia and Kerry Champion; Lori Murakami Chan and David Chan; Jean Chan; Hildegard Schell-Chaple and Michael Chaple; Celeste Chapman; Jean and John Chapman; Diane Chapuis; Sara Witt and Andy Charmatz; Joan and Gregory Chase; Anshu and Atri Chatterjee; Charlotte Worcester and Ubirata Chaves Coelho; Gail and Jeff Cherry; Maelin and Chau-Chun Chien; Barbara and Roland Child; Myrle and David Ching; Mahnaz and Cyrus Choobineh; Pat and Jack Christensen; Eugenia Corrales and Fred Christians; Susan and Robert Christiansen; Christine and Clyde Christobal; Karen and John Chuday; Betty and Charles Cid; Mary H. Clark; Jennifer and Tomas Clark; Gina Claudeanos; Margaret McNamara and Jeffrey Clayton; Betsy Clebsch; Linda Hawes Clever and James Clever; Janet and Lloyd Cluff; Laurel and David Coats; Jo Ann and Daniel Cobb; Ruth and Frederick Coe; Ailene Coffino; Cynthia Cohan; Diana Coleman; Monica Colmenares; Jocelyn and Jim Colopy; Comerica Bank; Lynn Cominsky; Celia and Paul Concus; Helen and John Cone; Marshal Connell; Bill Connors; Kathryn Conway; Donald Cook; Sandra Cooperman; Linda and Keith Copenhagen; Robin Dandridge and Stephen Corlett; Lola Cornish-Nickens; Maureen Corporal; Kerry Fitzpatrick and Jon Cosovich; Terry and Bryan Costales; Antoinette and Robert Costarella; Nancy and Dale Cox; Robin Cox; Jacqueline Craig; Juel and Steven Craig; Christine and Brooks Crawford; John Creelman; Jason Crotty; Lauri Black and Dyer Crouch; Jacqueline and Robert Crowder; Al Crowell; Beth Cumming; Charles and Jeanie Cushner; William Cusick; Sandra Proctor and George Dabis; Janet and Jane Daijogo; In memory of Jennie Mae Daily; Patricia and Robert Dal Porto; Willa Dallas; Terry Darcey; Phillip D'Auby; Janey and Richard Davies; Andrea Davis; Winna Davis; Leslie and Michael Dawe; Erin Allen and Mark Dawson; Diana Dawson Hoddick; Amy Goldberg Day and Mark Day; Maria and Salome De Araujo; Nina Srejovic and John de Benedetti; Lucy and Michael deAnda; Virginia and Robert Debs; Mary and Charles DeCarli; Janice and Frank Delfino; Vaughn Deline; Jobyna and John Dellar; Gretchen Friesel Delman and Dennis Delman; Genevieve and Rudolph DeMay; David Devine; Stephen Devine, Jr.; Diane M's Ceramics; Omar Diaz; Kristin and Ronald Dick; Leslie and Charlie Dicke; Lisa Neimeth and Peter Dickstein; Shirley and Conrad Diethelm; David Dietz; Ted Dillingham; Irene and William Dillon; Christine and Thomas Dinges; Earl Diskin; Siobhan Gallanagh and Robert Domergue; Eleanor Dommerich; Barbara and William Donald; Fairfax and Giovanni Donovan; Manwen Lo and Lip Doo; Rick Dotterer; Elizabeth Anne and John Doyle; Glendawyn

and William Doyle; James Drake; Alexandra Mayer and Daniel Druker; Carol Dudgeon; Theresa and William Duewer; Peggy Duly; Jane Dunaway; Zoe Astrachan and Andrew Dunbar; Kathleen Duncan; Shirley Chiang-Dung and David Dung; Charles Dunkel; Jacqueline and Freeland Dunker; Arthur Dunlop; Lynn and Robert Dunne; Patricia Dunning; Beatrice Duran; Maria Dall'era and Daniel Durkin; Ethel and Miles Durr; Alma Martinez and Paul Dybbro; Nancy and Steve Dykes; David Eakin; Susan Eakle; Gloria Eberling; Jane Eckert; Florence Eder; Margery and Richard Edgren; Nikki and Duane Edmunds; Rosemary and Irvin Edstrom; Gabriele Lange-Edwards and Robert Edwards; Julia Horak and Bill Efcavitch; Greg Egertson; Dawn and Karl Ehrlich; Ellie Campbell and Don Eidam; Sheila Einhorn; Karen and Don Eisenberg; Mimi Jensen and George Elbaum; Margo Elberg; Lisa Eller and Jeanette Atwood; Rosemarie Ellingson; Sharol Nelson-Embry and Robert Embry; Encore Karaoke Lounge, LLC; Laura Esserman and Michael Endicott; Birgit Carstensen and Nina Endicott; Niki Canotas-Engdahl and Rodney Engdahl; Patricia and David Engelhard; Lisa and Peter Engstrom; Juanita and Marjorie Erickson; Marilyn and Oscar Erickson; Phyllis and Roger Erickson; R. Elizabeth Erickson; Leila Erskine; Sandra Etchell; Nancy Weston and William Euphrat; Arthur and Pam Evans; Becky Evans; Carol Evkhanian; Denis and Cheryl Fama; Geraldine Farber; Leida Schoggen and William Farmer; Mary O'Hara and Tim Farrell; Mary Fe; Jenna and Steven Feinberg; Marilyn and Paul Felber; Christine Glastonbury and Michael Feldman; Joan Ferguson; Jessica and Edwin Ferrari; Cynthia Towle and Darron Fick; Irene and Mark Figari; Dorothy and Julie Filice; Debra and Robert Fils; Shoshana and David Finacom; Nancy Fischer; Kimberly and Richard Fisher; Stacy and James Flaherty; Elizabeth Scarpelli and Anthony Flanagan; Marina Gorbis and Christopher Fleischut; Susan Floore; Marilyn and Matt Flores; Joan Casserly and Mel Flyer; Delores Flynn; Beth and Kevin Flynn; Diana Taylor and Jay Folberg; Bruce Folsom; Christopher Fong; Diana Fong-Wedgwood; Jean Foss; Kathleen Foure; John Fox; Joanne and Michael Fox; Joan and Ron Francis; Richard Frank; Marcie and Robert Frantz; Noriko and Alan Frazer; Peter Frazier; Barbara and J.P. Fredrick; Louise and William Freedman; Ellen Friedman; Barbara and John Friedman; Linda Fries; Janice and John Friesen; Alberta and Roy Fross; Crystal and Scott Frost; Deborah and Robert Full; Heidi and Brian Fuller; Katherine and Robert Furukawa; Bryan Gabbard; Anna and Eugene Gaenslen; Pamela Galy; Evelina Gara; Dena and John Gardi; Francesca Gardner; Jinky and Michael Gardner; Julie McClean and Newell Garfield; Shannon and Brett Garner; Susan Garrity; Ellen Gartside; Diane Gasson; Miriam and Arthur Gauss; Linda Gavin; Frances and Theodore Geballe; Winifred Gegan; Nancy and Richard Gerber; Carol Gerdes; Keitn Gershon; Cathy Giammona; Maureen and David Gianelli; George Gibbs; Marion and Irwin Gibbs; Kay Gibson; Sandra and Ken Gigliello; Nancy and Thomas Gigliotti; Elizabeth Guy and Lawrence Giles; Sandra Gilford; Laura and Whitney Gilkey; Karen Giorgianni; John Girton; Marjorie Anne and Patrick Gisslow; Lissa and Alan Glassberg; Robert Glavin; Mr. Robert Gledhill; Anja and Siegfried Glenzer; Janet and Richard Glidden; Marianne and Richard Glosenger; Jill Godkin; Christina Goette; Phyllis Kamrin and Michael Goldberg; Vivian Phillip Basson and Sherrill Golden; JoAnne and Jon Goldstein; Savanna and Michael Goltzer; Diana Lum and David Gomberg; Alan Gong; Helen and Al Gonzales; Evelyn Goodman; Leslie Goodrich; Nina and Christopher Goodwin; Vivian and John Goodwin; Paula and James Gorder; Philippa and Phillip Gordon; Eva-Marie and Rusty Gordon; Bernard Gore; Julie and Terry Gorman; Phyllis and Eugene Gottfried; Binnie and Perngfei Gou; Jeremy Gove; Thelma Chan-Gow and Peter Gow; Margaret Graf, Doris Grau; Pamela and Timothy Gray; Barbara Kriz and Stephen Grayson; Nancy and Roger Green; In honor of Katharine Greenbaum; Deborah Jensen and Tom Greene; Flora Greenhoot; Jill and Robert Greenman; John and Mike Greenwood; Carol Lei and Ray Grefe; Beverly Gregory; Lynn Grier; Nancy and Vaughn Griffin; Angelyn Grillo; Sharlyn and Todd Gritzer; Carolyn and Margaret Grohne; Verle and Moses Grossman; Charlotte Mosher and Stu Grossman; Shawn Grunberger; Margaret and Annie Guichard; Sharon McNamee

Gunther and William Gunther; Ginger and Charles Guthrie; Roger Guy-Bray; Michelle and Thomas Haan; Heidi and Oliver Hack; Katie and Jeff Hagan; Elizabeth and Ian Halifax; Edna Hall; Elizabeth McLoughlin and Thomas Hall; Norma and David Hammons; Sharon and James Hampton; Charles Hancock; Douglas Hanks; Megan Hanks; Barbara Moulton and James Hannawalt; Janet and Eric Hansen; Frederick Hansen; Lisa Hansen; Lonny Baker and Todd Hansen; Pamela and Frederick Hansson; Joyce Sakai and Noboru Hanyu; Susan Hardeman; Catherine and Daniel Hardy; Nancy Jane and Nicholas Haritalos; Don Harmon; Deanna and Al Haro; Carol and Alan Harper; Jeanne Gibson and Estner Harri ; Patricia and Dale Harrington; Anne Flatte and Matthew Harrington; Kim and John Harris; Jeannette and Mark Harris; Mary Harris; Paul Harris; Susan-Jane Arevalo and Diana Harrison ; Suzanne and Juan Harrison; Heather Tarantino and Thomas Harrison; Lloyd Craighill and Beatrice Hartman; Barbara Harvie; Laura and Frank Haseloff; Pamm Higgins and Steve Hawk; Cole Hawkins; Yukiyo Hayashi; Dayle Hayes; Ann and Shawn Hecht; Stephen Heller; Eloice and John Helms; Anne-Christine Massullo and John Hemann; Mary Hempel; Cathy and Jerry Hendel; George Henke; Barbara and Paul Hernandez; Cathryn and Timothy Herron; Patricia Hess; Maureen and M.L. Hetzel; Leah and Paul Heyworth; Steven Hibshman; Debra Krutul-Hicks and Arthur Hicks; Sakaye and Jitsuo Higashi; Joan and Robert Higgins; Dee Lacy and David Hill; Karen and Stephen Hilenburg; Kenneth Himes; Rachael and Chad Hinson; Helen and Charles Hinson; Jan Hintermeister; Richard Hippard; Akiyo Hirose; Sheryl Hooper and Brian Hitchcock; Yoshiko and Kenneth Y.K. Ho; Christie and Alan Hochschild; Jeanne Hoff; Kathryn Forrest and Christopher Hoffman; Stephen Hoffman; Anne and Kenneth Hogue; Tsugiko Holdaway; Jeanette Sill-Holeman and Dennis Holeman; Betty and Alexander Hollett; Nancy Holter; Christine and Jason Hom; Charlotte Kuo and Willard Hong; Pamela Hook; Mary and Jock Hooper; Lily Hori; Robin and Dick Hornung; Ginny and John Horton; Patricia Wood and Gary Hoshiyama; Kay Hosmer; Kenneth Howard; Keith Howell; Cynthia and Joseph Huber; Richard Hughes; Pamela and Thomas Hughes; Jen Hult and Jason Walsh; Kevin George and David Hunt; Nancy Hunt-Kiesling; Tinsley and Thomas Hutson-Wiley; Laura Dansky and David Iseman; Kumiko Ishida; Harriet and Lawrence Israel; Georgia and Michael Jack; Barbara and Donald Jackson; Nadja Jackson; Terry and Daniel Jacobs; Shelly Levine and Don Jacobs; Barbara and Carl Jacobson; Hazel Jacoby; Elizabeth McDonald and Earl James; Margaret and Arthur Jampolsky; Patricia and Clair Janes; Katja Rimmi and Al Jaramillo; Laura Jason; Patricia and Raymond Jeffrey; Eric Jensen; Paul Jensen; Rosemary and James Jepson; Christina Cundari Jerkins and Joseph Jerkins; Paula and Richard Jesson; Claudia Jeung; Judith and Thomas Johansing; Andrea Rodriguez and Allan Johnson; Karen and Keith Johnson; Barbara and Robert Johnson; Marian and William Johnson; John Jolly; Hilda and Gerald Jonas; Dana Wright and Stepnen Jonas; Mary Griffin-Jones and Clinton Jones; Jean Jones; Corliss Lee and Hal Jordy; Isabel and Leo Juarez; Bernice Juliano; Becky and Eric Julien; In memory of Nancy Junge; June Kadish; Margaret Kadoyama; Kathryn and Frank Kalmar; Judith Haxo-Kapoor and Art Kapoor; Deneb Karentz; Elizabeth Karlsrud; Helen Karrer; Kate Hartley and Michael Kass; Irene and Kiyoshi Katsumoto; Janet Katten; Lisa and Robert Katz; Miriam McGuinness and Eugene Keegan; Katharine and Patricia Keeley; Deborah Keenan; Frannie and James Kell; Joan Kelleher; Frances Cogswell Keller and Roy Keller; Sharon and Tom Kelley; Rebecca Katz and Gregg Kellogg; Elizabeth Kelly; Mary and Kevin Kelly; Monique and Bruce Kelson; Margot and Robert Kemp; Stephen Kempainen; D. Wesley Wiley and Janice K. Kendall; Chrissy and Michael Kennedy; Helen Kerbavaz; Saralee Keropian; Debra and Douglas Kerr; Monica McHenney and Peter Kessler; Erna Ketchum; Robert Kieckhefer; Heidi Kilgore; Patricia Higa and Vaughn Kilgore; Lisa and Jack Kilmartin; Sallie and Hubert Kim; Edith and Michael Kimbell; Melissa Lim and Leigh Kimberg; Carl Kimmich; Rebecca and Joel King; Kevin King; Robert King; Kenna Mawk and Paul Kirk;

Katherine and James Kirkham; Eileen Kivlehan; William Kleinecke; Patricia and John Klem; Kathleen and Michael Klestoff; Shelly Rintale-Kneapler and David Kneapler; Marlene Kniveton Rosenberg; Walter Knoepfel; Patricia Stone and Chip Koch; Donna and Richard Koehler; Barbara and Thomas Koerber; Denise Garone and Stuart Kogod; Mary Ann Cryan and John Kollins; June and Thomas Konno; Molly and Yuval Koren; Gail Wallace and Francois Korn; Harriet Kostic; Barbara Kral; Elena and Ron Krause; Corinne Kreeger; Michelle Kriebel; Arlene and Steve Krieger; Velia Kroupa; Lily Ku; Sue Ellen and Stuart Kuhn; David Kweder; Sita and Watson Laetsch; Loren McLaughlin and Greg LaFollette; Marie and Jacques Lagarde; Andree Lamanet; Hilary Lamar; Beth Lamb; Helen Lamkin; Jean Olive-Lammers and Jim Lammers; Barbara Shipley and Paul Lamoreux; Christina Velasco and Greg Landau; May and Brian Ladrillono; Glory and Marshall Lane; Mara and David Langer; Mary Helen Briscoe and Wayne Lanier; Almon Larsh; Julie and Alan Laskin; Mary Ann Lassen; Patricia and Khateeb Lateef; Philip Lathrap; Richard De Natale and Craig Latker; Katherine and Edwin Lau; Kara Wright and James Lawrence; Susan and Gerry Lazzareschi; Robert Lea; Ellen Sueda and Mark Leach; Peter Ledee; Janice and Bob Lee; Bruce Lee; Robin and David Lee; Patricia and Ford Lee; Abigail Craig and John Lee; Judy Lee; Minae and Keibock Lee; Mei Kim Carol Lee; Jane and Nelson Lee; Peter Lee; Lucille Eng Lee and Raymond Lee; Wei Jia Li and Stanley Lee; Narissa and William Lee; Lynne Leeper; Maxine Leibowitz; Virginia Leishman; Gloria and Harold Leitstein; Sandra Lelich; Sandra and Jeremy Lenhardt; Serena Hu and John Lenox; Ly and Edward Leong; Shannon Trimble and William Lerrigo; Rochelle and William Lester; Jacqueline and Aaron Leventhal; Vinita and Benoit Levet; Alanna Zrimsek and Morton Levin; Annette Levine; Leonard Leving; Terry and Mark Levy; Nancy Lew; Suzanne Toller and Derf Lewis; Joanne and Raymond Lewis; Shirley Chiu and Richard Li; Marleen and Steven Li; Sara Flynn and Don Libbey; Adrienne and Van Lieu; June and John Lilienthal; Susan Sakuma and Wilfred Lim; Janet and David Lin; Wen Li and Wen Jung Lin; Louise Linford; Joyce and William Linn; Diane Liu; Peter Llerena; Elizabeth and Leon Loew; Alexandra and Louis Lofrese; Elisabeth Lohmann; Loma Prieta Club; Judith and Patrick Long; Donald Hermann and Maurice Loomis ; Marguerite and David Lopez; Filemon Adao-Bautista and Edward Lortz; Ann Elston and Lawrence Lossing; Eleanor and David Louis; Victoria Loustalot; Edward Low; Robert Low; Monica and Chad Lowe; Chesley Williams and Jacob Lowenstern; Adrienne Zihlman and Jerold Lowenstein; Diane and Dave Luders; Vivian and Andrew Lui; Sandy Lundgren; Leslie Murchy and Eric Lundquist; Dorothea Lyman; Dawn and Clark MacDonald; Eleanor Macdonald; Margaret and Lawrence Maciborka; Joan and Ronald Mackin; Barbara Botelho and Diarmuid MacNeill; Carol and Alec MacPhail; Horace MacVaugh; Jemima Madden; Ronald and Patricia Madson; Regan and Tyrrell Mahoney; Christiane and Jeffrey Maier; Joan and John Maki; Frank Malley, R.C. Weiss and Jack Malone; Laura Rattay Maloney and John Maloney; Ruth and Robert Manlove; Melanie and Daniel Manning; Russell Mannix; Barbara Margolis; Joshua Margolis; Jean and Robert Markison; Maria and Roderick Marquez; Ellen Marquis; Gertraud Marshall; Krista Martin; Evalynna Ho and Richard Marzano; Karen Jones-Mason and Daniel Mason; Susan Dugger and Stan Mathison; Susanne Honma and Rick Matsuno; Audrey and Arthur Matula; Katherine Mawdsley; Vernon Maxham; Carl May; Lisa and Andy Mayeda; Rosemary and Alexander Mazour; Eileen and Jennifer McAlister; Karen Joelson and Robert McCartney; Lisa McClain-Vanderpool; Kathleen McClellan; Eloise McCormick; John McCoy; Kathryn Hannay and Thomas McCray; Sara and Steven McDonald; Jan and Stephen McDougal; James McEntee; Leira Satlof and Carl McGahan; Socorro and Gerald McGowan; William McIvor; Marina McKenzie; Shirley McKinnie; Cynthia McLaughlin; Marsha and Paul McLeod; Marilyn McNair; Susana Millman and Dennis McNally; Yukiko and Michael Meadows; Susan Penney and Daniel Meagher; Valerie Meehan; Sherry Bass and Christopher Mei; Evelyn and Joseph Melanson; Hector Melendez; Janet Mendelsohn; Katarina and Victor

Menotti; Betty and Edward Mentzer; Irene and Graeme Merry; Richner Mesina; June Messer; Molly Pope and Edwin Metcalf; Marilyn and Lee Mettler; Roma and George Metz; Abigail Palmer Meurk and Terence Meurk; Amy Meyer; Susan Mack and Dan Meyer; Marie Kazan-Komarek and Kevin Meyer; Virginia and Robert Meyer; Shirley Mead-Mezzetta and Conrad Mezzetta; Gloria Milhoan; Barbara and Alan Miller; Eleanor and Howard Miller; Joan and Juan Miller; Kendrick Miller; Avis Boutell and Lyman Miller; Judith and Michael Milstein; Karen McRobie and Phillip Mineart; Carol and Charles Mink; Margaret Scully and Reed Minuth; Clayton Mitchell; Nancy Marks and Steve Mitchel; Frannie Roche and Michael Mitrani; Carole and Rand Miyashiro; Shirley and Robert Mohr; Robin Bowman and Michael Montgomery; Frank Montoro; Genevieve and Andrew Moore; Jeanette and Kevin Moore; Jamie and Michael Moore; Shirley Sutton and Peter Moore; Angela Jolie and Daniel Morillo; Richard Morrison; Dennis Mowbray; Deidre Moy; Ernie Vasquez and James Moyer; Betsy and John Munz; Joan and Daniel Murphy; Jeanette Hall and Jim Murphy; Joan Murphy; Katharine and Thomas Murphy; Lilian and D.B. Murray; Doerte Murray; Sonia and Joe Murray; Elizabeth and N.J. Murray; Jacqueline and Nick Naclerio; Tammy and Gordon Nadeau; Kathleen Naganuma; Patricia Nagle; Ann and Gregg Napoli; Nancy Kue and Victor Navalta; Karen and William Nay; Cheryl and Barry Neal; Marie-Jeanne and Rondel Neighbors; Carol and Richard Nelson; Norma and Gregory Nessier; Eleanor Neumaier; Maureen and Bill Newlin; Audre and Roger Newman; Susan Tran and Kenneth Ng; Kirstin and Frederic Nichols; Patricia Nicholson; Marsha Ann Haines and David Nicodemo; Erin and Matthew Niehaus; Anne and Thomas Niesen; Romie and Gary Noe; Katharine and Robert Noonan; Marion and Willard Norberg; Zoanne Nordstrom; Dorothy Jeane Oberlander; Joanel Serra and Harry O'Brien; Margaret O'Brien; Gerald O'Connell; Edna O'Connor; Abigail and Michael O'Connor; Nancy and Mike O'Connor; Ruth Ann O'Connor; Junko Okano; William Olds, Jr.; Regan Pritzker and Christopher Olin; Jean Olson; Dorsey and Daniel O'Neill; Jo Ann Parker and John O'Neill; Patricia and Bruce Orr; Carolina and Rodolfo Orta; Sandra Baillie and Ben Oseguera; Margery Connor and Michael Ottati; Donald Outsen; Margaretta and Douglas Page; Tula Pagonis; Irit Liberman Pahed and Robert Pahed; Joan and Achille Paladini; Diane and William Palmer; Lori Palomares; William Parent; Lynne Parenti; June and Howard Park; Diana and Craig Parker; Gertrud and Harold Parker; Ruthmary and Benjamin Parmeter; Donna Paschal; Ana and Cesar Pastore; Doris Brown and William Patterson; Thomas Paulson; Paula and Christopher Payne; Cathleen Pearson; Patricia and Donald Pecko; Lori and Michael Peltier; Evette and Dave Pennypacker; Glen Pensinger; Concepcion Perez; Marie and Roger Perriard; Joni Perry; Nicole and Mark Persson; Amy and Chris Pertschuk; Gail and William Peterson; Karen and John Pfautz; Vickie Pfeiffer; Catherine Pfeil; Beulah and Howard Pfozter; Gloria Rodrigues and Chuong Pham; Barbara Phillips; Cary and Denise Phillips; Elizabeth and Michael Phillips; Genelia and Robert Phillips; Dvora Honigstein and Mary Philp; Christine Pielenz; Evelyn and William Pillor; Barbara Pinney; Dennis Pisila; Cynthia Hogan and Meserve Platt; Abby and Brian Platter; Victoria and David Polatnick; Diane and Tibor Polgar; Glenda Cheng and Alan Poon; Denell and David Poore; Marseille Pope and Yuri Pope Bahl; Mischel and John Postas; Theresa Postello; Laurel Fox and Donald Potts; Terry and Christopher Powers; Bethelen Johnson and Ted Powers; Pratt and Larson Ceramics, Inc.; Lisa and Allen Preger; Kathy and James Prescott; Sylvia Pressacco; Joanne and William Prieur; Kimberly and Ahab Probst; Rita and Alexander Purcell; Calvin Qualset; Mary Nakamura and Tim Quinn; Amy Quirk; Viola and Earl Raab; Cherie Raciti; Susan and Lawrence Raffo; Gaylen Raisler; H.J. and Patricia Ralston; Carolyn Ramsey; Mary Lou Ramsey; Sharon Ranals; Anthony Rando; Bertram Raphael; Nancy and James Ream; Nadine Redding; Carolina and Walter Reid; James Reilly; Ray Reinecke; Joan Reinhart; Trish Rowe and Kenneth Renwick; Karen Reynolds; Carol Saysette and



Robert Reynolds; Norma Rianda; Eric Rice; Lila and Neville Rich; Kim Richardson; Michelle Cooke and Brian Richter; Anne Riley; Janet and Vince Rinaldi; Christine and Daniel Ring; Nancy Andrews and Amy Risch ; Julia and Peter Ritter; Lisa Hogg and Marta Rivas; Alison and Jonathan Rivin; Philip Robarts; Billie Robertson; Peggy Robinson; Thelma and Robert Robinson; Lynne Burwell and John Robiola; Bruce Robison; Anne and Luis Rodriguez; Janet Rogers; Virginia Rogers; Maricela and Lazaro Rojas; Leigh Blicher and James Rolin; Sharon Nearn and Robert Romano; Susan Rosen; Janet and Leland Rosevear; Julie Goldman and Robert Rosner; Glenda and Harold Ross; Anne Thorson and Peter Ross; Sissy and Cal Rossi; Maria Bernabeu and Jerry Rothfeld; Kathleen Tierney and Steve Rothman; Margaret Conkey and Lester Rowntree; Catherine Willis and Peter Rowson; Rose and Peter Royce; Rebecca Rozewicz; Vivian Kremer and Robert Rudeen; Margaret Rust; Carley and Paul Rydberg; Nancy and Magnus Ryde; Diane and Ed Ryken; Don Sabatini; Brenda Biren and Frank Sabella; Rosanne and Michael Saccone; Joanna and Jeffrey Sacks; Richard Sagebiel; Jesse Salem; Teresa Saltzman; Stephanie and Dante Sanchez; Anne Marie and Ben Sanders; Doris and George Sasaki; Helen and LaVerne Sasaki; Eleanor Drey and Warren Saunders; Mary Dempsey and Robert Sausedo; Janet and Victor Schachter; Ellen McAllister and Richard Schadt; Susan Schaffer; Dina Scheel; Marie Scheele; Katherine and John Schick; Donna and Dan Schlager; Nancy Schlegel; Eva and Phillip Schlenker; Evert Schlinger; Cynthia and Calvin Schmall; Melissa and Eric Schmitt; La Verne and Herbert Schmidt; Sandra and Randy Schmidt; Jacqueline and Hans Schonewald; Jean and Richard Schram; Betty Schreiner; Elizabeth and Eldon Schriock; Henry Schroeder; Miriam and Tom Schulman; Joanna Karger and Michael Schulte; Katharine and Frances Schultz; Ingrid Schultz; Ludmila Ershov and Peter Schwalbenberg; Isis and David Schwartz; Sophie Ziegler and Jonathan Schwartz; Ann and Scott Schwartz; Peter Schweikhardt; Barbara and Donald Scoble; Julia and Douglas Scott; Susan Kraft and Patrick Scott; Karen and Ross Scroggs; Frankie Seffens; Nicole Selway; Dulce and Mark Shafer; James Shand; Doreen Ludemann and Clifford Shapiro; Lisa Shaskan; Mary Ann Shattuck; Sonja Hanson and Susan Shea; Claudia and Don Shearer; Andrea and David Shearn; Elena Sheehan; Rebecca and John Sheehan; Mary Sheehan; Victoria and James Shegoian; Carola Shepard; Karen Hall and Steve Sherr; Lisa Louis and Hitoshi Shigeta; Amy and Glenn Shinsako; Rhonda Berney and Richard Shipps; Elizabeth Shumway; Susan and David Sibbet; Angela and William Sicord; Nicole and Dennis Sidlauskas; Cosme Silfa; Donna and Gerald Silverberg; Kate and Scott Silverness; Marina Simenstad; Eileen Simmons; Bobbie and Scott Simmons; Mary Jo Simon; James Simoni; Ellen Simpson; Winnie Sin; Marilyn Singer; Mira Sinick; Lorie and Samuel Sinnott; Jeanette and Frank Skinner; Linda Hsu and Kurt Skinner; Charles Slutzkin; Wendy and Steve Smit; Frances Silcox and David Smith; Douglas Smith; Marion and Kendric Smith; Wallis Smith; Hazel and Ellsworth Soares; Sonia and Henry Sohn; Beverly Solo; Grace Kong and Abdi Soltani; Andrea Cervantes and Alberto Soltero; MaryAnn Somerville; Jamie and Harold Sommerfeldt; Lisa Marie and Patrick Sotelo; Aida and Louis Soto; Helen and Malcolm Sowers; Elinor Spellman; Susan and Timothy Spenser; Susan and Robert Spofford; Bala Srinivas; Jean Staats; Lydia and James Stack; Natalie and Chris Stafford; Karen Allen and Peter Stamats; Lillian Stamets; Patricia and Christopher Steck; Rosine Reynolds and Steven Stein; Nina and James Steiner; Jacqueline and Norman Steiner; Sara and Craig Stephens; Diana Stephens; Sally Stephens; Saiko Matsumaru and Charles Stewart; Susan and William Stokes; Tami and Matthew Stolte; Ann Stone; Susan and Prescott Stone; Elizabeth Storey; Dee Dee and John Stovel; Deborah Stratmann; Mary Strauss; Paul Stricklin; Andrew Strom; Francie and Derek Strong; Robert Strong; John Stuart; Aina Stunz and Michael Stumpf; Jane and John Stuppin; Barbara and David Styles; Colleen Sudekum; Rick Suerth; Teresa and Raymond Sugai; Gilda and Daniel Sullivan; Nancy Sur

Campaign for the New Academy Donors

and Abraham Simmons; Anne and Charles Sutton; Martha and Ralph Sutton; Paul Herman and Ed Swanson; Monica and Greg Syler; Janet and Tibor Szikszai; Valerie Talmage; Lisa Cheung and Henry Tang; Jane Tang; David Tatro; Joyce Palmer and Sheila Taylor; Hideko Sakamoto and Vijay Tella; Richard Tenaza; Catherine Tenbroeck-Lynch; Heather Clague and Frederic Theunissen; Robert Thompson; Leslie and William Thompson; Jeannie Thomson; Donna Williamson and Peter Thorp; Randall Thorson; Carmi and Darrell Ticehurst; Ruby Tilley; Paul Toch; Lindsay and Bruce Todd; Doris Todd Brown; Gail and Peter Todd; Diane and Raymond Toloski; Rebecca Tom; Janet and Louis Tomimatsu; Deborah and Lester Tong; Sarah Tooley; Nancy Raff and John Torcassi; Jeannette and Eric Torchon; Jeff Torchon; Frances and Charles Townes; Karen and Leon Traister; Donnalee Steele and Gene Traub; Tree Frog Treks Natural History Explorations; Kathy and Kevin Trimble; Jean Trombla; Frank Tsai; Ivy Wong and Kevin Tse; Alta May Tsiliacos; Wing Fei Tran and Tak Tsui; Tracy Tuens-Way; Rita and Kenneth Turkowski; Rosanna and David Turner; Denise and Noel Turner; Nami and Terry Turner; Carylton Tyler; Amy Tezza and Chris Tyler; Kathleen and James Tyrrell; Heidi and James Tzortzis; Donna Worthington and Karl Uebel; Helen Uhrig; Allannah and Robert Ujifusa; Susan Romer and Don Ungar; Elisabeth and Louis Ungaretti; Jon Unger; Desiree and Douglas Unsworth; Dorothy Vaio; Guido van Rijn; Paulette and John Vann Portlock; Debra and John Varian; Anand Vasudev; Lydia Martinez and Lisa Marie Vegas; Fiona Starritt and Rick Velez; Faith and Charles Velschow; Joan and Robert Vernon; Karen Vickers; Francesca Geertsma and Byron Viets; Deborah and Peter Vigil; Yesenia and Daniel Villasenor; Carol Prince and Jens Vindum; Carolyn and Jorgen Vindum; George Viray; Celia Kuitunen and Ernie Visico; L. and Olav Visnapuu; Sean Visser; Priscilla and Joe Vivio; Stephanie Lowe and Tom Vo; Albert Vogel; Cynthia Volpe-Price; Stella and George von Klan; Olga Honchariw Vose and Curtis Vose; Laveille and Jeffrey Voss; John Wadsworth; Linda and William Wagner; Virginia Coles and Lance Wahler; Lael Robertson and Peter Walbridge; Elisabeth Waldburger; Teresa Walker; Bonnie Bernhardt and Wesley Walker; Theresa and Daniel Walner; Linda and Stephen Walsh; Heidi Walter; Margaret Walton; Tiffany Hsu and Justin Wang; Tanya and Wanlun Wang; Katherine and Charles Ward; Laura Ware; Myrna and William Wardo; Ramona Wascher; Helena Troy and Edward Wasp; Cynthia and Bob Watten; Tera Wattles; Douglass Waugh; Jane Webb; Nancy and Robert Weber; Susie Cohen and Barry Weingast; Victoria and John Welisch; Carmel Corbett and Charles Wellso; Elizabeth Welty; Heidi Werbel; Karen and Ronald Wertenberg; Robert Wertsch; Janet Wessel; Georgia Westdahl; Mary Ann and William Westfield; Mildie and John Whedon; Vanessa and David Whitcomb; Jean and Margie White; Stacy White; Michelle and Will White; Kaye and Larned Whitney; Jane and Richard Wicklund; Vivian Wilder; Carol and Karl Will; Anne Willcutt; Doris and David Williams; Tammy Jo and Kennen Williams; Barbara Hurtig and Benjamin Willis; Sharon and Greg Wilson; Margaret Wilson; Lynn Winkel; Derry and David Wisnom; Jessica Wheeler and John Witcher; Eunyong Ryu and Wolf Witt ; Ann Witter; Jean and Mark Witzke; Helen and David Wong; Jack Wong; Rosemary and Sheldon Wong; Iris Tam and Bryan Woo; Linda and David Woo; Irma Ornelas and James Woo; Barbara Gallios and Richard Woo; Janice Wood; Dee Lamb and John Wood; Soroya Wood; Anne and Bruce Woodbury; Jo Wen Wu and Daniel Woods; James Wrathall; Lauren and Artie Wu; Pam and Wil Wu; Lisa Torres and Laurence Wuerstle; Anne French and Richard Wurzelbacher; Noymi and Aleksandr Yam; Shau-ping Lo and Chung-Ting Yao; Sandra and Edward Yee; Pauline Yeung; Karen Lu and Robert Yi; Betty and Roy Yim; Donna and Clifford Yokomizo; Janet Yokota; Shanna and Hideo Yonenaka; Jeff Yoshida; Beverly Young; Mari Schoenbrun and Dylan Young; Warrine Coffey and George Young; Heidi and Grant Young; Dana and Kenneth Young; Barbara and Kevin Zaney; Patricia and Andrew Zeisler; Sylvia and Charles Zeller; Mary Zeller; Suzanne Zimmerman; Angela Zink; Nancy and William Zinn; Ellen and Irving Zucker; Simone Haas and Scott Zumsteg

The Academy has made every effort to ensure the accuracy of donor lists. Should you find an error, please contact the Development Department at (415) 379-5405 or friends@calacademy.org.

Gifts received April 1 through June 30, 2009

Friends of the Academy Gifts of \$1,000 and above to the Academy's Annual Fund

James N. and Bianca M.G. Alexander
 Laura and Neil Alford
 Howard Allen
 Diana Nelson and John Atwater
 Anne and Gregory Avis
 Pamela and Larry Baer
 Kathy and Andrew Barish
 Stan Barnes
 Mary S. Baumgartner
 Olive Bavins
 Susan and Frederick Bianucci
 Paige and Will Bischoff
 Betty B. Blomberg
 Dyan Triffo and Douglas Boake
 Nancy Spero and Norman Brand
 Laura Brugger and Ross Sappenfield
 Mimi and Peter Buckley
 Linda and William Bucklin, III
 Lisa Baker Bulkley and Jonathan Bulkley
 Betty Burnham
 Kelli and G. Steven Burrill
 Carrie E. Byles
 James Carmack
 Nina and Fred Carroll
 The Charnas Family
 Christine and Kevin Chessen
 Kristine Johnson and Tim Dattels
 Sonja and Bill Davidow
 Pilar and Lew Davies
 Gary Demyen and Les Partridge
 Robert Dockendorff
 Jennifer and Richard Emerson
 Alison and Peter Engel
 Barbara and Doug Engmann
 Jacqueline and Christian P. Erdman
 Judy Estrin
 Marion and Jack Euphrat
 Laura and John Fisher
 Joann Franklin-Knox and Maurice Knox
 Donald Frediani and Renata Gasperi
 Muriel French
 Elizabeth and Richard Fullerton
 Michelle and Brett Galloway
 Louise and Mark Gaumond
 Ann and Gordon P. Getty
 Karen and Edward Gilhuly
 Marcia and Rick Gold
 Marritje and Jamie Greene
 Sallie and Dick Griffith
 Yvette and John Gurley
 Lauren Hall and David Hearth
 Marie and Douglas Hamilton
 Ruby and Matt Harrison
 Heather Tarantino and Thomas Harrison
 Catherine and Kevin Harvey
 Vennessa and Joshua Hasten
 Margaret and William Hearst, III
 Richard J. Hildebrand
 Elizabeth Hosick and Barbara Peterson
 Janyce and David Hoyt
 Gerald Hoytt
 Nora Gibson and Bill Hudson
 Leslie and George Hume
 Susanna Ng and Robert Hutchings

Jacqueline and Donald Jacobberger
 Bradley and Christopher James
 Myrtle S. Johnson
 Sean A. Johnston
 Charlene and Derry Kabcenell
 Jessica and Kirk Kaludis
 Susie Langdon Kass and Sidney Kass
 Angie Patterson and Joseph Kastner
 Donna and Don Kelleher
 Terry and Bob Keyes
 Amanda and John Kirkwood
 Mr. Thomas B. Klein
 The Harold L. Wyman Foundation
 Virginia and Leo Koulos
 Renee and Frank Kovacs
 Barbara and Fred Kreitzberg
 David Landis and Sean Dowdall
 Jeanne and Bill Landreth
 Jill and Bill Lane
 Henri and Jeanne Lese
 Marie and Barry Lipman
 Sharon Long and Gilbert Chu
 Mr. and Mrs. Charles F. Lowrey
 Leslie Luttgens
 Taylor S. Lyen
 Sharon and Michael Marron
 Lucia Matzger
 Kathryn K. McNeil
 Teresa and Mark Medearis
 Steven Merrill
 Hae-Lim Minus and Stanley Morrical
 Nancy and George Montgomery, Jr.
 Nancy and Timothy Muller
 Christine and Michael Murray
 John Nelson
 Janet and Clyde Ostler
 Julie Packard and Robert Stephens
 Carrie and Greg Penner
 Eva and Bill Price
 Julie Quock and Justin Quock
 Robert and Janie Rempel
 Lilli Rey and Val Vaden
 Nancy and Richard Robbins
 Beth and Stephen Robie
 Shelagh and Thomas Rohlen
 Diane and Lloyd Root
 Ellen and Douglas Rosenberg
 Richard H. Salz
 Susan Savva
 Herbert and LaVerne Schmidt
 Mary Barbara Schultz
 Elizabeth Schultz
 Mrs. Eugene A. Shurtleff
 Colleen and John Silcox
 Thomas Sinton
 Katherine and Timothy Sloan
 Margaret and William Snape
 Judith and Jerry Steenhoven
 Anonymous
 Earl Stokes and Ross Moore
 Mrs. John Sutro
 Jennifer and Ted Tobiason
 Jocelyn Tom and John Lee
 Suzanne and Robert Valdez
 Edith and Geerat Vermeij
 Molly and David Wadhwani
 Laura E. Wais
 Delcey and Harlan Watkins
 Cynthia Anderson and Dennis Welch
 Anne and Putney Westerfield
 Jennifer Wilmans
 Diane B. Wilsey

Pat and Bill Wilson
 Polly and Ward Wolff
 Barbara Ward and Roy Wonder

New Academy Guild Members who recently increased their support (\$750)

Teresa and Joel Backman
 Joanne Chan and James Kramer
 Vonceil Chun Yara and Scott Yara
 Shari Libicki and Andrew Coblentz
 Carolyn and Chris Colpitts
 Alison de Bord
 Stephane de Bord
 Jessica and Michael Eisler
 Kimberly Grone-Schwartz and William Schwartz
 Betty K. Jensen
 Doris S. and Theodore B. Lee
 Ritu and Amrit Nagpal
 Heather and David Olitsky
 Elaine Chow and Jung H. Park
 Adrianna Pope Sullivan
 Amy and Andrew Rattner
 Suzie Reider and Brian Smith
 Lisa and Michael Rubenstein
 Carol Fang and Jonathon Stillman
 Jennifer and James Varley
 Anne Maria and Paul L. Wattis, III
 Shannon and Dennis Wong
 Anne and Montgomery Woods

New Associate Members who recently increased their support (\$500)

Stefan and Nataly Arnon
 Agnes and Dean Babcock
 Andrew Ball and Corinne Winter
 Patricia and Steve Barulich
 Richard J. Behrendt
 Lily and Tom Beischer
 Michael Bell and Mary Bernard
 Kara Ann Berg and Sherri Anne Smith
 Michael and Tara Berta
 Donald and Katherine Black
 Gail Bliss Moore and Anita Erhard
 Izumi and Alan Cabrera
 Katherine Anne Casey and Alex Bottmeyer
 Barbara Caulfield and Sountru Sountru
 Eugene Y. Cheng and Maribeth Colloton
 Donald and Jeanne Dana
 David and Ada Dorn
 James D. Dunn and Karen Cupp Sakai
 Emma and Diane Durst
 Peter and Lisa Engstrom
 Claudia and Ray Enos
 Arville Finacom
 Virginia Freeman
 Fredric S. Freund
 Robert and Carla Gerner
 Jeremy Ginsberg and Kristin Harrison
 Marian C. Gonzalez
 Arthur and Carol Graham
 William and Frances Green
 Carrie Grimes and Michael Bostock
 Kathleen Ann Grogan and Mary Patricia McFadden
 Peter M. Harding and Amy Adams Harding
 Robert E. Henderson
 Jane and Dennis Henner

Susan Herzig and Paul Hertzmann
 Jeanne Hoff
 Addison Holmes and
 P. Renee Lubin-Holmes
 Mark Horowitz and Jody Buckley
 Arnie Jackson
 Eleanor Jardine
 Carolyn Johnson and Rick Theis
 Roger and Doris Ketcham
 Kevin King and Meridee Moore
 Margie and Sarah King
 Susan Jane Kirsch and
 Theodore W. Kirsch, Jr.
 Nancy Kittle and Ronna Leon
 Corey E. Kliman and Tracy Sagin
 Augustine Kuo and Lisa LeJeune
 Stephanie and Ray Lane
 Karen M. Larsen
 Liisa Ann Larson and Steven A. Buehler
 Jace Levinson and Karen Dzienkowski
 Wayne S. Lifton
 Harrison M. Lind
 Erica and Scott Lindstrom-Dake
 Sharon R. Long and Gilbert Chu
 Stacy and Paula Mettier
 Kerstin Morehead
 Cathie Nelson
 Usha Raj Nesamoney and Diaz
 Henderson Nesamoney
 Bruce A. Pate and Vicki Seiler Pate
 Jeff and Kim Qvale

Martha Rock
 William and Renee Rothmann
 Jeanette Rude
 Velma and Michael Schnoll
 Brian E. Scott and Janice A. Moreno
 Miriam Sedman and Ralph Nyffenegger
 Deborah G. Seymour
 Stanley T. and Carol G. Smith
 Lenore Stormes and Charles Rose
 Steven and Heidi Tanner
 John C. Thoelecke and
 Elza Wong
 Terri Tienken
 Erich and Shelby Tupper
 Michael Tyndall and Irene Takahashi
 Dorothy Vaio
 John P. VanCamp
 Alan and Joanne Vidinsky
 Lucinda B. Watson
 Geoffrey Weber and
 Priscilla Hung Weber
 Amanda Weitman and
 Christopher Heffelfinger
 Susan A. West
 Bruce and Susan Worster
 Jo Wunderlich
 Frederika and Robert Zipp

New Eastwood Associates

A community of philanthropists whose planned gifts endow the Academy and sustain its important mission in the future

Melissa and Brian Wong
 Hermine and Sumner Marshall

Foundation and Corporate Gifts

\$100,000 and above

Anonymous
 The William Randolph
 Hearst Foundation
 The Henry Mayo Newhall Foundation
 Pacific Gas and Electric Company

\$50,000 - \$99,999

James Family Foundation
 The John D. and Catherine
 T. MacArthur Foundation

\$1,000 - \$49,999

Hitz Foundation
 Latham & Watkins, LLP
 The Markkula Foundation
 REI
 Santen Incorporated

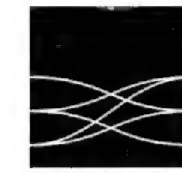
Corporate Sponsors & Partners

A special thank you to our lead sustainability sponsor:



**Pacific Gas and
Electric Company®**

The Academy is also grateful for the support of our additional corporate sponsors and partners.



WACHOVIA



UnionBank



FIRST REPUBLIC



SCHOLARSHARE

JPMorgan



**THE
MORRISON | FOERSTER
FOUNDATION**

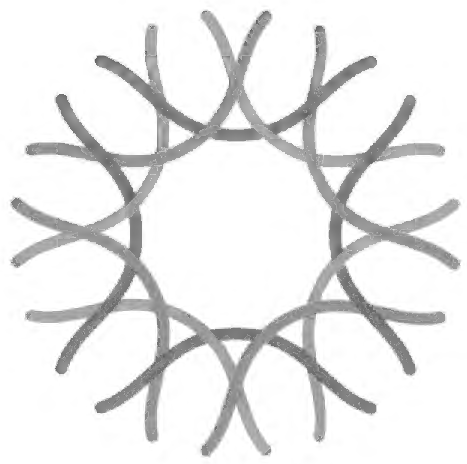
**charles SCHWAB
FOUNDATION**

Google Favorite Places



Gavin Newsom and Maya Lin select the Academy as a "Favorite Place" in San Francisco.

On July 15, Google launched its Favorite Places initiative—an addition to Google Maps in which 200 luminaries from more than a dozen cities selected their favorite hometown restaurants, shops, and attractions. The Academy was chosen as a favorite spot by both San Francisco Mayor Gavin Newsom and artist Maya Lin. Meanwhile, Academy Executive Director Greg Farrington was chosen by Google as one of San Francisco's luminaries and asked to highlight his favorite haunts in the city. Farrington's picks, which are marked on Google Maps with an appropriately-designed penguin pin, include Books Inc. in Laurel Village and the Academy's own restaurant, The Moss Room.



CALIFORNIA
ACADEMY OF
SCIENCES

Golden Gate Park
55 Music Concourse Drive
San Francisco, CA 94118
415.379.8000
calacademy.org

Photo: Kevin Twomey

Prepare to be Scared



The Death's head hawkmoth, best known for its starring role in *Silence of the Lambs*, is just one of the frightening research specimens that will be on display throughout the month of October in honor of Halloween (see page 13 for more details). This nocturnal species is commonly observed raiding beehives for honey—it escapes undetected by mimicking the scent of the honey bees.